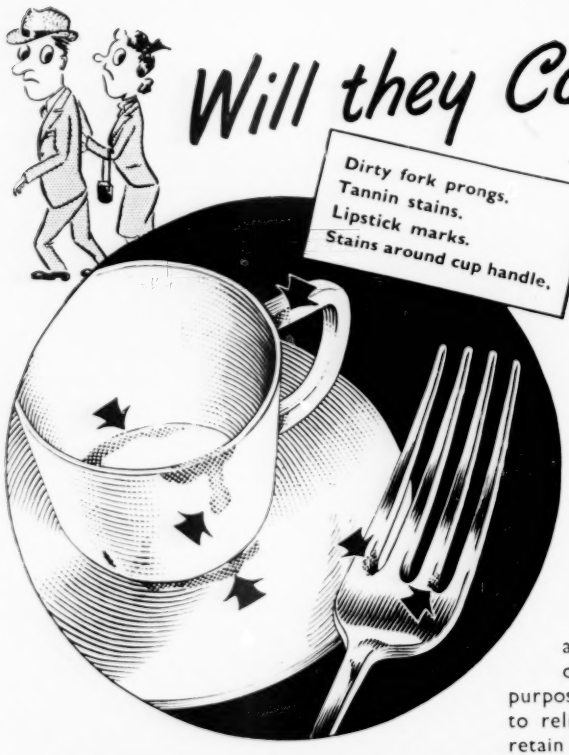
# PERSONNEL MANAGEMENT
## WELFARE & INDUSTRIAL EQUIPMENT

*Learning ... ell fish*

# Will they Come Again?



Don't let these risks ruin your business. The cure is so simple and cheap — just use the efficient detergent specially prepared for the purpose. There is a grade of CHINABRITE to relieve your worries and enable you to retain your good name for cleanliness.

# CHINABRITE

- **Is much more efficient than ordinary outdated washing-up methods.**
- **No scouring.**
- **No dull film deposits.**
- **Keeps crockery sparkling white.**
- **So easy to use.**
- **Chinabrite is good for business.**

**DECIQUAM 223**
A tasteless, taintless, instantaneous steriliser for Ice Cream Servers.

**SANIGLAS**
An inexpensive but powerful product for sterilising glasses in public houses.

**STEROKLENE**
A strong Detergent specially graded for cleaning beer engines and pipe lines.

**CHINABRITE IS GOOD FOR BUSINESS**

*Products of*

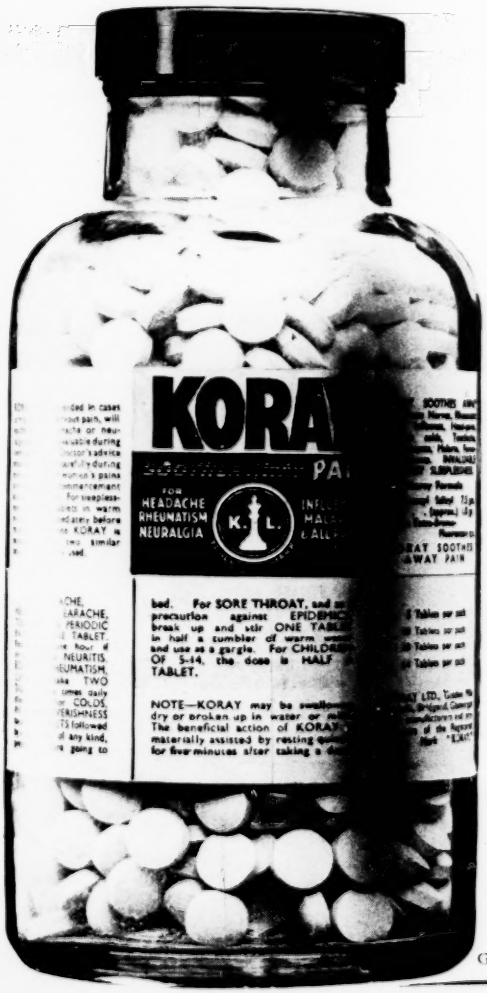
**THE BRITISH HYDROLOGICAL CORPORATION**

COLLOIDAL WORKS, HIGH PATH, LONDON, S.W.19
TELEPHONE: LIBERTY 1021 (4 LINES)

**Associated Companies:** *Colloidal Detergents of Australia Ltd., Sydney, Australia. Chemical Services (Pty.) Ltd., Johannesburg, South Africa. And at Copenhagen, Amsterdam, Brussels, Paris, Lille, Lyons.*

SPECIAL INTRODUCTORY OFFER TO
WELFARE OFFICERS CONCERNED ABOUT RISING COSTS

# 1,000 KORAY
## ANALGESIC TABLETS




FOR ONLY

# 20/-

Don t miss this opportunity of laying in a stock of these thoroughly dependable analgesic tablets—*at the lowest possible cost.*

The workers in your factory have confidence in Koray. At home, they have long regarded Koray Tablets as their first aid in cases of nerve pains and for checking attacks of colds and 'flu. Many women, in particular, bless the day they first heard of Koray.

One or two Koray Tablets taken with a little water quickly and safely bring relief. Send *your* order, together with a cheque or P.O. today.

KORAY LIMITED
GOLDEN MILE WORKS, BRIDGEND, GLAM.

**Whatever the job...**

*Dalmas can be worn under all conditions*

*No danger of infection from dirt or grease*

*No risk of burning when using acids*

*Washing-up can be continued with safety*

*No discomfort or cramping of workers' movements*

# ...Dalmas dressings provide ideal first-aid protection

DALMAS dressings answer all factory first-aid problems. They are grease-, acid- and waterproof, stretch to fit in all directions, but won't fray or come off. They are made in various shapes and sizes. You will also find that Dalmas strapping—without medicated pad—has 101 first-aid uses. There are surgery cabinets, suitable for factory first-aid rooms; special bulk supply terms available on request. Send your order to Dalmas Ltd., Leicester (Leicester 65261), or write for free sample.

**London Depot :** 140-142 St. John St., E.C.1 (Clerkenwell 3399)
**Leeds Depot :** 14 Neville St. (Leeds 29764)
**Scottish Agents :** Robert Telford, 29 Waterloo St., Glasgow, C.2 (Central 2716)
*St. Dalmas (Ireland) Ltd.*, Henrietta Place, Dublin

THE MOST EFFICIENT FIRST-AID DRESSING

- **Stretches to fit in all directions**
- **Won't fray or come off**
- **Waterproof, you can wash with it on**
- **Greaseproof**
- **Acid-proof**

**DALMAS LTD.**
*LEICESTER*

*Look for the blue tin with the white band*

# Two Suggestions..

to Personnel Manageresses by which to ensure

## THE COMFORT OF THE FEMALE WORKER

Personnel Manageresses will know that the difficult days for female workers can constitute an industrial problem.
Comfort is best maintained at these times with either Mene or Menex Sanitary Protection which for over fifty years has been the choice and trust of womanhood.

Reliable, highly absorbent, of downy softness . . . a protective back . . . Mene and Menex possess the qualities necessary for peace of mind and ease of body. They have loop ends for snug adjustment. Write today for a special quotation for a bulk order. You can have confidence in recommending . .

Mene

Menex SOLUBLE

*Obtainable from Drapers, Chemists, Stores, etc.*

**ROBINSON & SONS LTD., Chesterfield, Derbyshire**

# ..and now LADIES

## TOTECTORS

### WITH INTERNAL STEEL TOE-CAPS!

at last . . . Real sensible work shoes, designed to protect the feet of ladies in industries where foot accidents prevail.

Steel safety caps are neatly concealed beneath attractive punched and gimped toe-caps forming a perfect shield for toes, whilst padded tongues protect insteps.

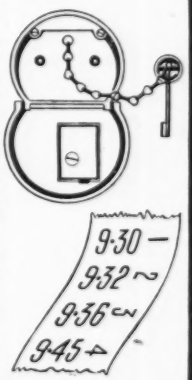
These shoes having leather soles and heels are sturdily constructed on the comfortable fitting lasts as designed for the Women's Services and are excellent in the reduction of foot fatigue.

*Safety and Welfare Officers should write for illustrated price list to:*

**WILKINS & DENTON (London) LTD., Granville Square, Kings Cross Road, London, W.C.1**
*Telephone:* **TERminus 5247**
*We welcome Home and Overseas visitors to our London Showrooms: 52 Woburn Place, W.C.1*

# *Are you* **SURE** *your watchmen make* **EVERY** *patrol?...*

By means of key boxes sited at strategic points in your building, all of which the watchman must visit in turn in order to actuate the watch's mechanism (which automatically records the number of the post and the time of the visit), **LLEWELLIN'S** watches provide a printed record of the time and regularity of the patrols in your building—all night—every night.




**. . . you can be if they carry**

## LLEWELLIN'S *Watchmen's Watches*

providing you with printed proof that ALL their rounds are made correctly, at the proper times—even during the "after-midnight stretch" when everything seems safe and quiet—the very period during which the majority of fires and burglaries occur.

*Price complete with leather pouch and sling* **£32**
*Stations, each* **15/-**

**LLEWELLIN'S MACHINE CO LTD**
KING SQUARE · BRISTOL 2
*Telephone 20891*

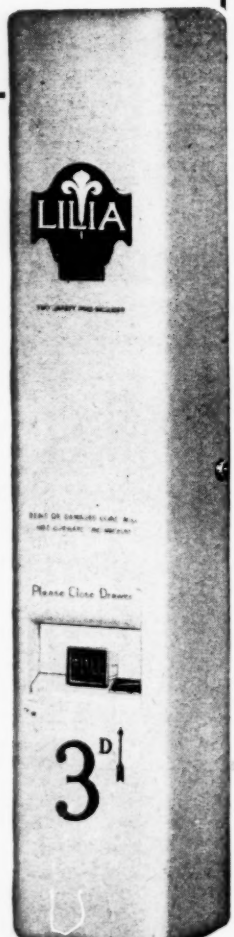
18426

THE NEW

# LILIA

## SANITARY TOWEL VENDING MACHINE

PROMPT DELIVERY IS OFFERED




Welfare Officers in the most up-to-date factories are installing the 'Lilia' Vending Machine in women's cloakrooms. Women employees find it so useful to buy emergency supplies of 'Lilia' by this method. It saves endless embarrassment and inconvenience.

The all-metal machine illustrated — which can be fixed in a few minutes by any mechanic — is of streamlined design with permanent white enamelled finish. It holds 20 cartons each containing one Lilia soluble towel.

LILIA

*Lilia are the towels that are comfortable as well as soluble. They feel soft to the touch — they stay soft in wear.*

Price **£7 . 10 . 0** Nett

Measurements: Height 35 inches. Width 6½ inches. Back to front 6 inches.

**LILIA** Towels 30/- per gross nett carriage paid, minimum 2 gross.

**LILIA LTD., DEPT. Z50, PARK MILL, HOLLINWOOD, OLDHAM**

# This legging has the right ideas

**LOOK AT ITS SIX SAFETY/COMFORT FEATURES**

This new Safety Products Legging has been specially designed to give comfortable protection to foundrymen, welders — anyone exposed to the risk of leg or foot-burns.

The Legging has a springframe with a detachable cover of good quality asbestos cloth. It works like this:

1. ADJUSTABLE FIT. The spring is designed to adjust itself to the size of the leg, ensuring a comfortable fit.
2. RIGID COVER. The spring holds the cover rigid: the asbestos cannot crumple or move out of position.
3. COOLNESS. The legging is pleasantly cool to wear: the asbestos does not touch the leg at all.
4. QUICK REMOVAL. These leggings need no fasteners (though snap fasteners are provided if preferred): there is no under-foot strap. If hot metal falls on the legging, it can be removed in an instant, before the heat can reach the skin.
5. FOOT SAFETY. The reinforced spat front cannot curl: it gives full protection always to the top of the foot.
6. ECONOMY. The covers are easily replaced when necessary: the spring gives long service and outlasts many replacement covers.

OBTAINABLE NOW FROM DEPT. A.6

**SAFETY PRODUCTS LTD.**

44 HATTON GARDEN, LONDON, E.C.1, ENGLAND

*Sole distributors in Great Britain for Willson Products Inc., Reading, Pa., U.S.A.*

# "SECRYTYPE" DROP-ACTION TYPISTS' DESKS

**Now Made in 15 Different Models—Single and Double Pedestals**

**ANOTHER NEW MODEL**
**1950 D**

The illustrations show this desk open and closed. Size of desk, 44 in. long × 28 in. wide × 31½ in. high, with roller shutter front.

Two desks in one, at a reasonable price.

**IMMEDIATE DELIVERY**

**Ask for Brochure P.M.51 and Prices**

"Secrytype" Desks have been approved by the Council of Industrial Design and are being exhibited by the Festival of Britain Authorities.

*Patentees and Sole Manufacturers:*

**OSDA LIMITED**

**108 FULHAM PALACE ROAD, LONDON, W.6** Phone: RIVerside 6683/4

*We hold the largest stock of Office Equipment in London*

# COMPLETE CLEANSING

Greasy, grimy, pore-clogged hands harbour the germs of industrial dermatitis. The finest safeguard against this distressing time-wasting complaint is Duckham's Anti-dermatitis Skin Cleanser — widely used in industry for many years. Its speedy, effective cleansing action, plus its antiseptic nature, leaves the skin clean, soft, supple and germ-free.

**Write to Alexander Duckham & Co. Ltd., 346, Kensington High Street, London, W.14 for descriptive booklet.**

***SPEEDY · EFFECTIVE · GERMICIDAL***

Duckham's
SKIN CLEANSER

# KWICK-DRY
## PAPER TOWELS
*Dispensed from*

**AUTOMATIC CABINET**
***CONTROLS Waste!***

***Cuts your Towel Costs***

**and is cheapest in the long run!**

There may be cheaper paper towels than **KWICK-DRY**, but the *Automatic Control Cabinet* as illustrated, which only releases one section with each pull, eliminates so much waste, that in the end these **BETTER** Quality towels are cheapest.

For the welfare of your staff, you should insist on **KWICK-DRY PAPER TOWELS.** Hygienic; losses, laundry bills and danger from communal towels are eliminated. For use in office, factory or canteen.
There is nothing drab or uninviting about **KWICK-DRY TOWELS,** they are a nice cream shade and furthermore, they are stronger wet than dry and do not disintegrate. **KWICK-DRY** conform to the 1937 Factory Act.
Supplied in flat interfolded packets or rolls dispensed from de-luxe automatic control cabinet.

***Full details on application to Towel Dept.:***

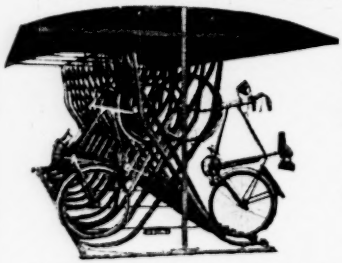
**FREEDER BROTHERS PAPER MILLS**
**BRIMSDOWN - ENFIELD - MIDDLESEX**
***Telephone: HOWard 1847 (5 lines) Grams: Sylkocrepe, Enfield***



**ODONI** (REGD. TRADE-MARK)

**PARK YOUR CYCLES**
**THE ODONI WAY**
**With Odoni Patent "All-Steel"**
**BICYCLE STANDS**
Types to suit all possible requirements
SINGLE OR DOUBLE-SIDED, HORIZONTAL OR SEMI-VERTICAL. For Indoor and Outdoor use.

**TYPE 10**



DOUBLE SIDED SEMI-VERTICAL OUTDOOR STAND, BUILT WITH CLOSE RACK ARRANGEMENT (CYCLES AT 12" CENTRES)

*Write for fully illustrated leaflet and price list to Sole manufacturers and Patentees.*

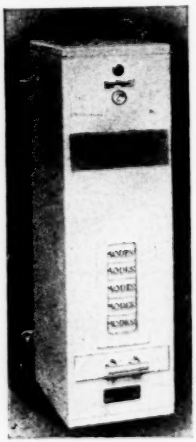
**ALFRED A. ODONI AND CO. LTD.**
**404-5 SALISBURY HOUSE, FINSBURY CIRCUS**
**LONDON, E.C.2**
Tel. No.: MONarch 8638/9 (WORKS: LONDON, N.W.) Tel. Add.: Odoni, Ave., London



***INSTALL***

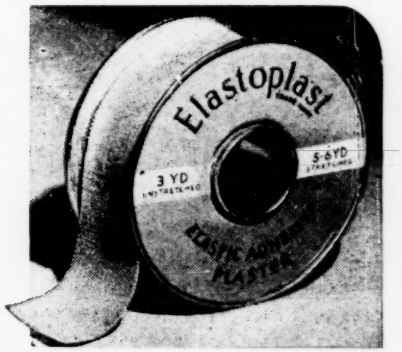
# PETER'S

**E**QUIPMENT
**T**O
**E**NSURE
**R**EGULAR
**S**UPPLIES
of SANITARY
TOWELS



(Soluble and Non-Soluble —Choice of Brands)

**PETER'S AUTOMATIC MACHINES LTD**
1 LADBROKE ROAD, LONDON, W.11 *'Phone: Park 7608*




# FABRIC OR PLASTIC

**Industrial Surgeries now have the choice of two kinds of Elastoplast Plaster.** A fabric plaster made from lightweight cloth with lengthwise elasticity, and the new plastic type which stretches all-ways and provides 100% waterproof protection when such is required. Both plasters provide adequate support for the injured part and have excellent adhesive properties. Full particulars or samples of either plaster will be sent, upon request, by the Medical Division of the Manufacturers.

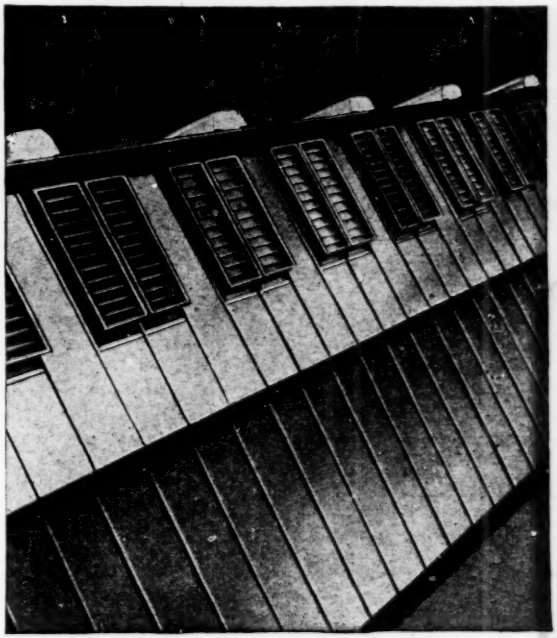
*2 KINDS OF*

# Elastoplast

TRADE MARK

*Made in England* BY T. J. SMITH & NEPHEW LTD., HULL
*Outside the British Commonwealth Elastoplast is known as Tensoplast*

SEE COLT ABOUT VENTILATION WHATEVER YOU DO



# Colt Ventilation provides perfect working conditions...

This view of Advance Laundries Ltd., Finchley, shows Colt Clear-Opening Ventilators operating in conjunction with Colt S.R. units — just one example of the way Colt has solved ventilation problems for over 4,000 prominent firms throughout the country. Scientifically planned Colt ventilation is installed simply and quickly, without interruption of work — and at low cost.

**FREE MANUAL**

*With full specifications of the wide range of Colt Ventilators is available on request. Write for Manual B 130*

# COLT INDUSTRIAL VENTILATION

**COLT VENTILATION LTD · SURBITON · SURREY · ELMbridge 6511-5**

*Also at Birmingham, Bradford, Bristol, Kilmarnock, Manchester, Newcastle, Newport (Mon.) and Sheffield.*

## TEA DISTRIBUTION TROLLEYS

Tea distribution is made easy if a Farquharson Trolley is used — and a Farquharson Multipot. There is a large range of standard patterns to choose from, and in addition we are always prepared to make specially to meet particular needs.

**JAMES FARQUHARSON & SONS LTD**

*Specialists in Factory Tea and Food Distribution*
PARK PARADE, HARLESDEN, LONDON, N.W.10
*Up to date since 1849* *Telephone: ELGar 4080 (4 lines)*

**Green's of BRIGHTON**

BRITISH FOOD PRODUCTS OF QUALITY
for

## CANTEEN CATERING

CUSTARD POWDER
BLANC MANGE POWDERS (Assorted & Chocolate Flavours)
CORNFLOUR
SPONGE CAKE & PUDDING FLOUR MIXTURE
DESSERT GELATINE UNSWEETENED
BAKING POWDER
ROASTEX (Gravy Powder)
GRAVY SALT
YORKSHIRE PUDDING, PANCAKE & FRITTER FLOUR MIXTURE

Packed in special bulk quantities by GREEN'S of BRIGHTON
Makers of Green's Sponge Mixture

*Contractors to H.M. Government, County Councils, Institutions, etc.*
*Samples are available on application to:*

**H. J. GREEN & CO. LTD**

BULK SALES DEPT. BRIGHTON

*Have you read*

*"The Life of Your Staff"?*

*We shall be happy to send you a copy on request*

**Crusader**
INSURANCE COMPANY LTD.
ESTABLISHED 1899
WOODHATCH REIGATE - SURREY
*Telephone:* REIGATE 4334

For London's CHILDREN?

Yes! if you will help the

**SHAFTESBURY SOCIETY**

*to provide them—*

Please send donations to:

HOLIDAY FUND

32 John Street,
London, W.C.1

***"Wheelers of Plaistow"***

*specialists in the manufacture of*

**OVERALLS**

*for*

**MEN**

*and*

**WOMEN**

*in every Trade*

*The "VOLE" Brand* DIGNIFIES THE JOB

**H. WHEELER & CO. LTD**

*Overall Clothing Manufacturers*

**107 LONDON RD., PLAISTOW, E.13**

*Telephone: GRAngewood 4071*


★

# PERSONNEL MANAGEMENT WELFARE AND INDUSTRIAL EQUIPMENT

INCORPORATING CIVIL DEFENCE JOURNAL AND A.R.P. AND N.F.S. REVIEW

## CONTENTS

JULY 1951


**PERSONNEL MANAGEMENT**

*INDUSTRIAL RELATIONS IN BRITAIN AND U.S.A.* By Elizabeth Pepperell 16

*SEVENTY TROUBLE-FREE YEARS* By Jenny V. Greig 17

*"GOOD HUMAN RELATIONS" BUILD £5M. TURNOVER* ... ... 19

**WELFARE & TRAINING**

*PIONEER TRAINING PLAN* By Paul Nugat 25

**SAFETY**

*MODERN EQUIPMENT CUTS ACCIDENTS* By W. J. S. Graham 13

*BRITISH SAFETY AN EXAMPLE TO THE WORLD* ... ... ... 27

*HOW BIRMINGHAM FIRMS SAFEGUARD PERSONNEL* ... ... 30

**CANTEEN & CATERING**

*HIGHER CANTEEN CHARGES* By Peter Martin 35

**CIVIL DEFENCE**

*HOW TO PLAN AND EQUIP YOUR C.D. UNIT* ... ... ... 24

**INDUSTRIAL EQUIPMENT** ... ... ... ... 37

**READERS' SERVICE SECTIONS**

*SURVEY OF CURRENT PERSONNEL PRACTICE* ... ... ... 22

*PERSONNEL NEWS BULLETIN* ... ... ... ... ... 31

*PARLIAMENTARY* ... ... ... ... ... ... 34

*LOOKING AHEAD: EQUIPMENT TO BE INSTALLED* ... ... ... 40

*SUMMARY OF OFFICIAL PUBLICATIONS* ... ... ... ... 42

*THE MONTH'S DATES* ... ... ... ... ... ... 44

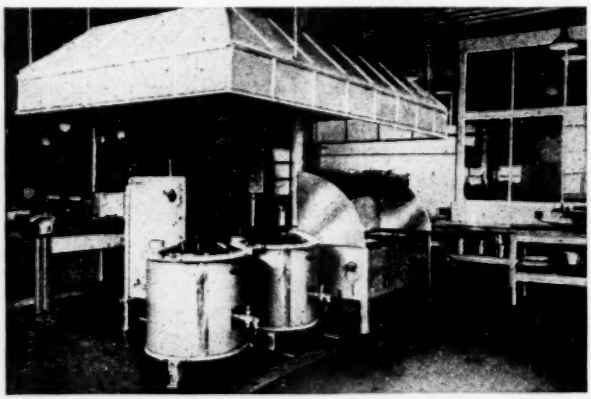

VOL. 18 No. 134

Published monthly by Shaw Publishing Co. Ltd., 180 Fleet Street, London, E.C.4 (CHA. 8844) Incorporating "Civil Defence Journal and ARP & NFS Review" and "Welfare," London. Subscription rates: 20s. per year, post free, U.K., abroad; 1s. 6d. per copy, 1s. 9d. post free in U.K. The Editor will consider articles, news items, photographs and details of new products. No responsibility is accepted for MSS., and stamped addressed envelope must be enclosed if return is desired.

CHANGE OF SUBSCRIBER'S ADDRESS. Please inform the Publishers six clear weeks in advance of the issue for which change of address is to take effect, and include present address as well as new address required.

## GIVE UP SMOKING? I NEVER STARTED! says Mr. Therm

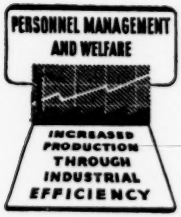
Gas burnt in Mr. Therm's gas-heated appliances never produces the slightest smut or smoke. It is so clean in operation that gas equipment is kept hard at it with complete success in many places where almost surgical cleanliness is essential; and the maintenance of the equipment is confined to an easily handled minimum. The other advantages of gas as a fuel—flexibility, ease of control, rapid heating from cold and high efficiency—are so well known that Mr. Therm's face is familiar in factories all over Britain.



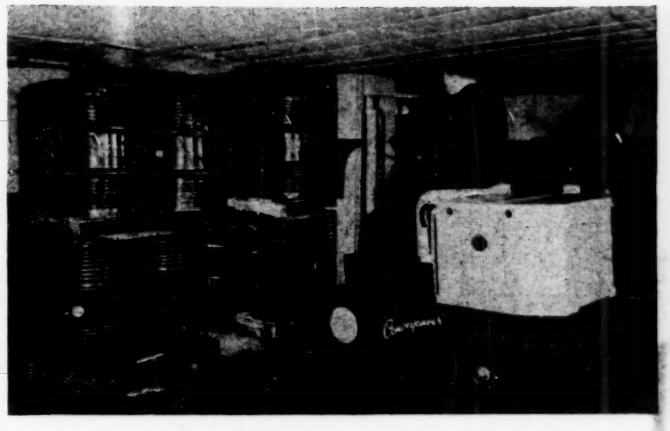
Here is gas doing a real job, with scrupulous cleanliness, in the industrial canteen of Joshua Hoyle & Sons Ltd., Rochdale. The equipment comprises fish frying range, steaming oven, cooking range, two 20-gallon boiling pans, dish washing machine and the usual labour-saving devices. The kitchen serves about 250 two-course lunches in 10 minutes each day.

**MR. THERM BURNS TO SERVE YOU!**

THE GAS COUNCIL · 1 GROSVENOR PLACE · LONDON · SW1




**Accident prevention often involves the purchase of new equipment and the re-design of a manufacturing or handling process. But the results are well worth while.**



**When a fork lift truck was used for drum handling, accidents were reduced to nil. And the truck almost paid for itself in the first year's operation**

# How Modern Equipment Cuts Accidents, Raises Production

**By W. J. S. GRAHAM,** Safety Officer, Clayton Aniline Co. Ltd.

SAFETY properly applied increases production as well as reducing accidents. Before developing this point let me quote what is, to me, a classic example. In one works I was constantly having accident reports on injuries which employees had sustained while rolling drums. There was at least one minor injury a week, such as cut hands and bruised feet, in a section employing only seven men. We did eliminate the foot injuries by the use of safety boots, and gloves helped to minimise the numbers of cut hands. However, accidents still continued. Eventually it was agreed to mechanise our drum handling by the use of a fork lift truck. The result was that during the next year neither the truck operator or his helper came to the works surgery for an injury dressing. The wages of the remaining five men no longer required almost paid for the truck in the first year.

The increase in productivity is not always so easy to recognise, and it is at times difficult to point to a gain. But even when one only considers the reduction in time spent in obtaining first-aid, justification for safety will be found. My experience has shown me that in a works employing, say, 2,000 persons in the chemical and heavy industries, about 4,000 to 5,000 minor injuries will be treated in a year and the number of re-dressings will be approximately the same: 10,000 treatments in a year, and each case will probably mean 30 minutes' lost production time.

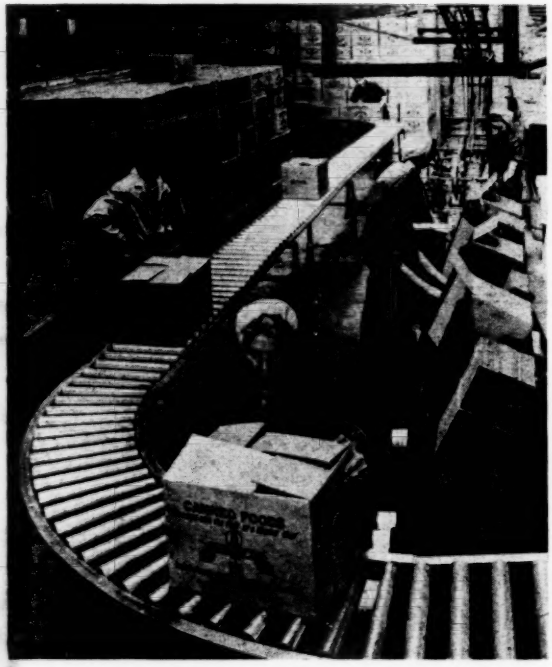
To make a real reduction, in many cases it will necessitate a redesign of the process, as was done in the instance of the fork lift truck. In others, a palliative will have to be administered by the use of gloves, goggles and other personal protective devices. Whatever safer method is adopted it will not be willingly accepted and used unless it increases productivity, is simple in its application and, if worn, comfortable.

★ **Incorporate safety features in the original design of a new machine. And let designer, user, safety officer and "stop watch man" do the planning together.**

★ **In "handling," accident rates can be considerably reduced by the use of jack lift trucks, belt or roller conveyors, skid pallets and other mechanical aids.**

The real place to incorporate these safety features is in the original design and it is at this stage that I have found a meeting between designer, user, safety officer and the works study engineer most helpful. The designer knows what his plant will produce, the user the snags that have to be overcome under actual production conditions, the safety officer can draw on his past experience and very frequently suggest where accidents can be expected, while finally the much maligned "stop watch" man may be able to suggest an improved method or alteration in layout which will enable greater productivity to be achieved.

If such an integration of ideas is not adopted the new machine will subsequently have pieces tacked on and then removed at the behest of each of the interested parties. I have in the past fitted guards which have considerably reduced production, and the production and work study people have altered a safe method to increase output. Now, however, we realise each other's problems, with the result that most



**A medium type roller conveyor in use in a food manufacturer's packing department**

of these troubles are overcome before production starts.

This article deals mainly with appliances which can and have reduced accidents, as opposed to the design of plants already in existence, and in this field alone considerable improvements in production can be achieved.

Interlocked guards with pre-close gates have taken a forward step in recent years by the introduction of automatic gate closing on the depression of a foot pedal which actuates a compressed air system, allowing the press to operate as soon as the gate is closed and the hands are out of danger. The reduction in operator fatigue and a faster cycle of operations is, I understand, very noticeable. Feeding of thin metal sheets is speeded up by the use of rubber suckers on hand grips. Cut hands have certainly been reduced by this appliance.

As is well known, "handling" accidents account for more injuries than does any other cause; and in his annual reports H.M. Chief Inspector of Factories has on several occasions pointed out that mechanical handling does greatly reduce the inherent risk that is present when an object has to be picked up or moved by manpower.

In many industries labour is the most expensive commodity in the finished product, and if it can be replaced by a machine or appliance, greater output at lower cost will be achieved. In the field of handling the safety officer can make a considerable reduction in accidents by advocating the use of jack lift trucks, belt or roller conveyors, drum trucks, skid pallets, hydraulic and hand operated stackers and other mechanical handling aids.

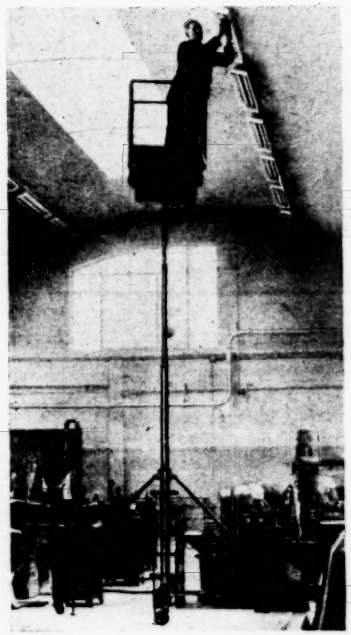
Building and maintenance work at any height above 3 to 4 ft. has always been delayed because of time spent on erecting scaffolding. Makeshifts are resorted to all too frequently, with considerable risk of injury. During the past year I have been very impressed by a portable wheeled scaffold. This has a platform about 3 ft. square which can be elevated hydraulically to a height of 10 to 12 ft. by a few strokes on a pump handle by the workman standing on the platform. The platform is rigid, fitted with handrails, and there is ample space for the storage of hand tools. In scaffolding there is a considerable loss of time in placing boards to form a walkway, and lightweight fabricated platforms which can be quickly placed on the bearers of either steel or wood scaffolding also reduce man hours.

Repairs to overhead pipework frequently present difficulties as the repair work itself requires only a short space of time but to change a medium or large size valve means that a scaffold and lifting tackle are needed. There is a new type of crane on the jib of which a platform can be fitted. This platform will accommodate three men and the valve. When the jib is elevated it acts as a quickly positioned scaffold, crane and working platform.

In many works it is frequently necessary to test atmospheres so as to determine whether they are toxic or explosive. If an electrically operated explosimeter is used, a responsible person can make a vapour test to ascertain the explosive and toxic limits in the space of a few minutes on the spot, whereas some of the chemical testing methods require considerable time to be spent on the preparation of standard solutions and comparison tests. Modern testing apparatus of this type can be portable, or a fixed installation can be built into a solvent recovery unit, where it will give an exact indication of the amount of solvent which has been absorbed by the charcoal. Thus it shows when the charcoal requires steaming out.

I think that protective clothing

**A fork lift truck carrying a pallet container, in which sub-assemblies and other small items can be transported and stored**



**This portable wheeled scaffold has a platform which can be elevated hydraulically to a height of 10 ft. to 12 ft. by the workman on the platform**

can and does increase productivity provided that the right article is supplied. For example, a complete one-piece plastic boiler suit, rubber gloves, boots and breathing apparatus recently enabled a workman to effect a quick repair to a broken valve on a vessel which contained a very dangerous liquid. Without the protection it would have been impossible to carry out the repair until the vessel had been drained and a considerable quantity of liquid lost. At the same time it would not be possible for a man to work for several hours in such a suit because it would become too hot, although in other respects it is suitable because of its acid resistant and hard-wearing qualities.

Plastic gloves, because of their resistance to abrasion, can reduce costs when compared to cotton, rubber or leather on many jobs. On the other hand, a good quality leather armoured glove had a life of six weeks on one metal sorting job, whereas a glove whose initial cost was about half only lasted from three to eight days.

Considerable improvements have been made in eye and face protection. Welding helmets can now be obtained which enable a man to chip without having to raise his helmet, or which, as the helmet is raised, automatically lowers a transparent plastic shield to protect the eyes. Goggles and spectacles which give good protection and are comfortable are in daily use, the operative word here being *use*.

Plastic aprons, armlets and leggings which are light, strong, resistant to water and corrosives have reduced the cost, owing to their longer life, of many protective clothing accounts.

Improved lighting has reduced accidents and it has also led to better quality and productivity. And paint can be a wonderful aid to improved production. In one plant where all pipelines had been painted according to a safety colour code it was found that not only were accidents practically eliminated but that wrong mixes, due to mistakes in connecting flexible lines to vessels, were almost unknown.

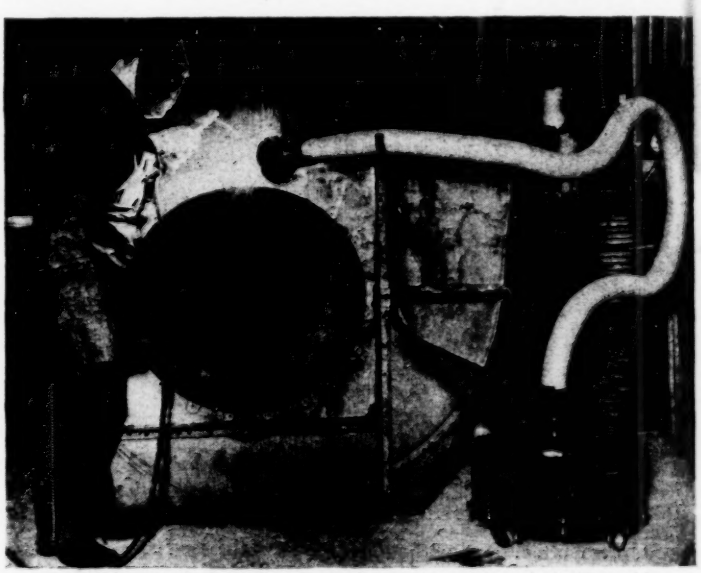
It is self evident that properly designed plant and equipment will increase safety and production because waste of material and labour is not tolerated. How to persuade management to purchase this equipment is fairly easy if the trouble is taken to produce a "savings statement" which shows how much in a year can be saved by adopting a new method. Two condensed and simple examples will, I think, suffice.

The first concerns the leather gloves referred to earlier. On test, I found that one pair at 13s. outlasted eight pairs at 4s. to 7s. My statement read as follows:

| *Glove Issue* | £ |
|---|---|
| Issue of 800 pairs of gloves to 12 men per annum at, say, 5s. per pair ... ... | 200 |
| Issue of new type gloves: 100 pairs per annum at 13s. per pair ... ... ... | 65 |
| Saving per annum ... ... | 135 |
| Capital outlay ... ... | Nil |

| *Fork Lift Truck—Saving Statement* | £ |
|---|---|
| Existing cost of labour per annum ... ... ... | 2,080 |
| Plus 25 per cent overheads | 520 |
| | 2,600 |
| Estimated labour cost per annum, driver and helper... | 660 |
| Petrol, oil and repairs, say | 250 |
| Plus 25 per cent overheads | 225 |
| Depreciation at 12½ per cent per annum ... ... ... | 200 |
| | 1,335 |
| Saving per annum ... ... | 1,265 |

In both cases sanction was obtained, costs lowered, output increased and accidents reduced.



**In addition to the protection afforded by his mask and clothing, this welder is safeguarded by the ingenious fume-exhausting equipment illustrated. It is of particular value when welds have to be made in confined spaces**

# Industrial Relations in Britain and America

By **ELIZABETH PEPPERELL** of Carreras Ltd.,
and Chairman of London Branch, Institute of Personnel Management.

**What can we learn from the Americans and what can they learn from us? In this article, condensed from a talk she gave recently to the Association of Women Launderers, Miss Pepperell gives some answers to these questions.**

IN giving these impressions of the American industrial scene, I am conscious of the fact that my trip was a brief one and that the more one knows of America, the less confident one feels of making generalisations about such a vast country. It is really a continent with a great variety of peoples and traditions, practices and legislation differing from state to state.

However, here are some of the things which impressed me most vividly:

(1) The standard of living of the working class is not higher, and is in some instances lower, than in Britain. They raise their own standards by:

(a) Joint incomes (most married women work).

(b) Being prepared to do two jobs (practically everybody has a sideline).

One aspect which gives concern is the fact that so much of the standard of living is dependent on hire purchase and deferred payment schemes. Should a period of economic depression come, the effects would be disastrous to the standard of living and to industry as a whole.

(2) The willingness to strike at the slightest provocation. Over ten times more working hours were lost in U.S. through industrial unrest than in Britain in 1949. In negotiating machinery and the formation of voluntary agreements, we have much to show to the U.S.A.

(3) Americans change their jobs either voluntarily or involuntarily much more often, and with much less thought and anxiety than do British workers. To understand this attitude one must, of course, appreciate the background of many Americans. Many of them in the last two decades have been political or religious refugees who have forsaken careers and material possessions to seek refuge in the United States, and are prepared to start at the lower levels and to move on when the opportunity occurs.

This attitude also affects schemes for social security. Such schemes are far more readily accepted in Great Britain than in the U.S., because of this desire to move and progress. To be tied to firms for pension schemes, sickness schemes, etc., does not appeal.

(4) Safety precautions, welfare services and amenities are of a lower standard than is generally found in British industry. (There are exceptions, of course, as over here.) There is no national Factories Act such as we have in this country, and legislation varies from state to state. The method of compiling figures also varies and it is very difficult, therefore, to judge the total situation.

It was interesting to note that much of the publicity and posters on accident prevention are of British origin, with American captions.

(5) American workers appear to be better informed on their company's affairs than do British workers. Communications and all forms of works publicity seem much more effective. Posters, factory broadcasts, supervisors' manuals, employee handbooks, policy manuals, etc., are issued in large quantities.

(6) Joint consultation, as interpreted by the formation of works committees, production councils, etc., is still in its infancy. During the war many such committees were set up, but they ceased to function on the cessation of hostilities. On one hand there appears to be a less democratic attitude in industry, and on the other hand there is more informality in relationships between different levels of the organisation.

(7) The need for good training methods has been fully recognised. American training techniques are very good and in this respect the Americans have much to teach us in Great Britain. Here we tend to assume always that the person we are about to train knows more than he does. In America they start off with the assumption that the person knows nothing at all.

The use of films is very extensive, the time allowed for training is greater and they have accepted the principle that no person can be

(*Continued on page* 34.)

### U.S. STRONG POINTS

- ★ **Training—from the ground up.**
- ★ **Putting employees in the picture**
- ★ **Willingness to accept increased mechanisation.**

### BRITISH STRONG POINTS

- ★ **Less industrial unrest.**
- ★ **Joint consultation further developed.**
- ★ **Better safety and welfare services.**

**"Be human and have no fads" sums up the personnel policy of this famous building firm. The success of this policy has been demonstrated by the avoidance of serious trouble in all parts of the world, in an industry which has had its full share of labour unrest.**

Joint consultation is a feature of Wimpeys' personnel policy. Here a production and welfare committee meeting is in session

# This Policy Has Produced Seventy Trouble-Free Years

**By JENNY V. GREIG, Establishment Officer, George Wimpey & Co. Ltd.**

ALTHOUGH this company employs 20,000 people, undertakes contracts all over the world, is in a trade in which there is bound to be a large labour turnover, and recruits native labour in places like Malaya, Hong Kong, the Gold Coast and Burma, it has not had a serious labour dispute for seventy years. By what techniques of management has this happy result been achieved?

As far as Great Britain is concerned, within the writer's responsibility fall all personnel and welfare matters affecting the administrative, clerical and technical staff down to section foreman, numbering some 3,000 people. Among these workpeople an extremely happy atmosphere exists, but it must be stressed that this is not due to any esoteric causes. The company has no fads. The plain facts are that good work is recognised and credit is unstintingly given for it.

Vacancies and promotion are not dealt with according to the caprice of some unseen, powerful management but result from merit and, as far as possible, from within the organisation. Bias on the part of any one supervisor is counteracted by a recently inaugurated method of grading. Three supervisors mark, independently, each member of their staff on twelve qualities—intelligence, knowledge of work, accuracy and reliability, speed of work, energy and industry, co-operativeness, initiative, leadership, organising ability, negotiating ability, ability to develop and, what is virtually an overall assessment of the foregoing qualities, general efficiency. This marking is made on a card of the visible index type and is then passed to the writer for final judgment. Marks are from one low to five high with plus signs used. Average final marking is three.

In an organisation of this size, it is inevitable that promotion prospects vary in different departments. To eliminate the element of luck in being originally appointed to a slow-moving department, or one without many opportunities for advancement, vacancies above a certain level are not automatically filled from within that department, but are notified to a central promotion committee, who review employees in the appropriate grade throughout the company.

The highest possible importance is attached to maintaining the health of the employees and it is a prime part of Wimpeys' policy to accept responsibility for it. Therefore an exceptional medical service is at the disposal of the staff. Three leading London consultants are retained: a physician, an ear, nose and throat specialist and a surgeon. Their services are available free of charge. Where an operation is deemed necessary hospital beds are found immediately. Here the patient is expected to pay the cost of his maintenance in hospital but not the medical fees.

For all permanent staff a pension fund exists. Normally it is possible to enter this after serving with the organisation for one year.

Summing up, the writer's conception of personnel management in the special sphere for which she is responsible may be stated as "common sense and no book of rules." Human nature, being what it is, cannot be measured by the draughts-

**"COMMON SENSE AND NO BOOK OF RULES"**

**No fads.**
**Good work recognised.**
**Promotion by merit.**
**Fair method of grading.**
**Exceptional medical service.**
**Pension scheme.**
**Executives always ready to help solve personal problems.**
**Trouble caught at the start.**
**Mobile canteens.**
**Very good amenities in even the remotest camp.**

**A typical workers' bungalow on an overseas site**

man's slide rule and has a habit of defeating all attempts of theorists, statisticians and sociologists to put it into neat classifications.

## *Overseas Problems*

TURNING now to the subject of the technicians, tradesmen and manual labourers, numbering some 17,000 at home and abroad, who are outside the writer's supervision, it is clear we are faced with a different set of circumstances altogether. Contracts are currently being carried out in many different parts of the world and this involves the employment of local manual labour—in one place Africans, in another Malays and Chinese, in yet another Burmese. Permanent key men together with technical and supervisory staff have to be transferred from home for appropriate periods. And all the time dogging the footsteps of responsible management is the difficulty of obtaining a sufficient supply of skilled labour.

All this adds up to a major, global operation. Problems on the site at home may sometimes be difficult enough, but in such places as the Gold Coast, Hong Kong and elsewhere they become well nigh insuperable when local customs must be observed and local religions given full respect.

How some of these problems are solved is illustrated by an experiment the company recently carried out on a contract in the Kuwait oil field.

In the prevailing climate, and as a result of the lack of permanent accommodation, it was possible for British staff to work there only in the winter. So at the beginning of the working season in each of the three years the contract lasted, all the necessary labour, manual, technical and administrative, totalling 300 men, was transported out by aircraft and brought back again at the end of the season. The expense was enormous but one extra day's oil won amply rewarded the principals for the additional cost involved. On this particular job tents were provided as shelter at the outset, then temporary dwellings were erected, and, finally, bungalows were built and equipped.

It is obvious that in these overseas operations much responsibility has to be delegated to the staff on the spot. Day-to-day problems cannot be referred back to England, hence the importance attached to the rating system referred to already. The labour manager expressed the matter in this way: "Wimpeys' supply the raw materials; the men do the rest."

Great importance is attached to payment by results at home and, wherever possible, abroad. In order to mitigate the effect of industrial fatigue the five-day week is regarded as an ideal and experience has shown that productivity is higher under this arrangement.

Where men are working for long periods away from their homes all sorts of problems, personal and domestic, arise which are not so often encountered among those who return every day to their wives and families. At the same time, it has to be remembered that nobody works well when he has a troubled mind. For this reason Wimpeys' executives, from directors to foremen, are always ready to help.

This close relation, this personal bond between management and men, has an important practical result in an industry employing large numbers of workers who have bitter recollections of unemployment in the 1930's. Little bits of trouble which might conceivably develop into something large are caught at the source. In an industry of this kind there are always some unruly or dissident elements who have to be guarded against.

Hostels, canteens, sports, amusements all have to be carefully organised on contracts in lonely parts of the country. The firm has its own catering department staffed largely by women for whom special hostel accommodation has to be provided at the labour camps. During 1950 no fewer than 7,000,000 meals were provided. Mobile canteens are operated where local circumstances make fixed eating places impossible. The term "labour camp" is possibly misleading. These camps provide living and eating accommodation, together with welfare facilities such as films, shows, boxing matches and so on. They are an important factor in labour recruitment.

**Two typical Wimpey staff canteens, one abroad, the other at home**

**Batchelors Peas Ltd., Sheffield, have built their new personnel department inside their factory, so that employees have only a short distance to walk, under cover, if they need medical attention or advice from the personnel staff. This is only one of many examples of the importance which the company attach to personnel and welfare work. Increased turnover figures prove that the policy pays management as well as benefiting their employees**

# These "Good Human Relations" Have Helped to Build up a £5 Million Turnover

**By a Special Correspondent**

BATCHELORS PEAS LTD., the Sheffield firm of food packers and canners, was founded in 1895 by William Batchelor, father of the present chairman. Although the company's foundations were laid firmly from the beginning on the pre-packing of food, the development and expansion of the business has been largely concentrated into the last 30 years or so—from the end of World War I. In that time the company have expanded from a modest family business employing about 100 people, with an annual turnover of about £17,000, to a large public company with about 3,000 people on the pay-roll and a turnover in excess of £5,000,000.

This big development has been the result principally of a flair for the business, hard work, and *good human relations* inside the company, with customers and with labour organisations. (There is close and constant consultation and co-operation with the trade unions.)

"Good human relations" might in fact, be taken as the company's watchword and throughout the busy years of this formative period the Batchelor family always placed the greatest emphasis on the importance of the welfare of their employees. This tradition is being carried on by the present management, headed by Lt.-Col. Maurice W. Batchelor, J.P.

After the busy wartime years with their inevitable improvisations, Batchelors began to reorganise, and the personnel and welfare departments which had grown up as the company expanded were thoroughly overhauled, to become a fully staffed department under the supervision of a personnel officer. The quarters which had been available until then have already proved to be inadequate and it became clear some time ago that new premises would have to be planned.

The department is headed by the personnel officer, Mr. K. H. Wheeler, who co-ordinates the work formerly done by several people, and supervises, in addition, personnel matters in the three small feeder factories. (The other Batchelor factory—at Southall—has its own separate but similar organisation since it is a considerable distance away from those mentioned above.) He is aided at present by an assistant personnel officer and a personnel staff of four, together with a full-time nursing sister, nurse and first-aid assistant, a part-time medical officer, a part-

**Father (visiting) watches mother and daughter filling cartons in the labelling department. Above: Sir Robert Hyde (right) talks to the oldest employee, 67-year-old Mrs. Shepherd. Mr. Wheeler, personnel manager is in the centre**

**A factory supervisor looking after the children of employees' relatives on a visit to the factory**

time, fully qualified chiropodist and a large canteen staff.

The department has now moved into new quarters which were formally opened on May 28th by Sir Robert Hyde, K.B.E., M.V.O., founder of the Industrial Welfare Society and an old friend of Batchelors. The new premises are built in a central position inside the factory so that it is very easy for any employee to get to them should the occasion arise. They consist of the personnel officer's room, a main office, an interviewing room for applicants for employment, a waiting room, a surgery, a doctor's consulting room, a rest room and a chiropodist's room. Separate cubicles are provided for patients and the modern medical and surgical equipment includes such items as a special chiropody chair and infra-red and radiant heat lamps.

During the busy season in the summer the factory works a day shift and a night shift and arrangements are made for both the surgery and the personnel office to be staffed for both shifts.

In Sheffield the company employs some 700 factory personnel (including 450 women) and an office staff of about 160; in the three outlying factories there are about 320 workpeople of whom about two-thirds are women. In the summer, when fresh produce is being canned, these numbers rise to 1,500 or more in the Sheffield factory. It is this vast seasonal increase in labour which poses a special personnel problem for Batchelors. Some 100 university students and 700-800 additional female workers have to be engaged for a period of about three months (July to September).

In accordance with the company's policy (a food packing firm cannot be too careful) every new employee must be interviewed and medically examined before being engaged. Clearly this is a considerable administrative problem and it is solved in Sheffield largely by interviewing prospective employees as early as May and June for a July start. In this connection the company has the advantage of being long established in the district. It carries out a steady programme of labour recruitment throughout the year apart altogether from the seasonal influx. Partly because of this, but perhaps more because of its good relations with its employees, the Batchelors company has so far experienced no difficulty in recruiting adequate labour at any time. In fact, a considerable proportion of the seasonal intake consists of employees who have either worked with Batchelors before and left on marriage, or who each season come to the firm for a few weeks' employment, since full-time employment is not desired.

Batchelors believe in giving their new starters a thorough grounding in the job they are to do. Therefore, all new employees are given a special course of training before being put on to a particular job. This particularly applies to normal recruitment of young female labour—mostly school-leavers. The flow of applicants of this particular type is channelled through the local Youth Employment Bureau and is encouraged by a regular system of inviting girls about to leave school to tour the factory and see what goes on. Once accepted the girls are given a 6 weeks' working training course.

There are twenty-four girls on each course, split into three groups of eight, each under the control of a woman supervisor. The age of each group respectively is 15, 16 and 17. The girls spend 2 weeks in each main department training on the actual jobs, and during their learnership period they receive the pay they

**Job applicants in the ante-room of the new welfare block waiting to be interviewed by the personnel officer**

would normally earn. It is an "earn as you learn" course.

As well as practical tuition, trainees attend talks, instructional film shows, and a conducted tour of the factory where Batchelors' tins and metal boxes are made.

A typical programme of talks, as included in the syllabus of the course held last April is:

"Works Processes."
"Quality Control and Consumer Complaints."
"Production Study."
"The Company."
"Accident Prevention."
"Prevention of Waste."
"Industrial Hygiene."
"Personnel Services."
"Personal Appearance."

The talk on personal appearance includes hints on skin care, grooming of the hair, care of the hands and general hints on personal cleanliness. The personnel officer has the theory that personal appearance is linked very closely with good work in the factory. The girl who takes a pride in her hair, complexion, and the condition of her hands also takes pride in her work. It is true that since this course has been included in the training scheme the girls have greatly improved in appearance and in their work. Unsightly curling pins protruding from factory caps, dingy hands, badly made-up faces and badly soiled overalls are almost unknown.

At the end of each course parents and relatives of the trainees are invited to a tea party in the factory and to see over the departments in which their daughters are working. They meet the executives and supervisors in charge of their girls and are able to see for themselves that the work is agreeable and conditions in the factory excellent. The company have found that this particular activity has been welcomed by parents who tend to wonder just what sort of work their children are required to do. In a similar way, it has proved useful on occasions in enabling the personnel officer to meet the parents of his charges with the result that when necessary it is possible for him to go and visit them in order to suggest guidance for the benefit of the employee concerned.

**Sir Robert Hyde opening the new welfare building**

The company have a firm policy of promoting supervisors from the employees on the factory floor. Potential supervisors are given an eight weeks' training course during their probation, to fit them for their new responsibilities. It is also the job of the personnel department to implement the company's policy of encouraging the individual to make progress not only by providing training programmes within the firm but by assisting in other ways, such as in part-time education with help in paying tuition fees at night-schools and day continuation schools.

As is common with many other large companies, Batchelors have a large number of other welfare activities, such as a subsidised canteen scheme where cost of meals is graduated according to age and sex; schemes for sick benefit, men's pension fund and staff superannuation, long service awards, marriage gifts and the like. In addition, since the factory at Sheffield is about a mile from the nearest main road, a special bus service is arranged for the benefit of employees. A further facility is the provision of overalls and head scarves which are also laundered free of charge.

As might be expected, Batchelors pay a good deal of attention to the social side of factory life. They provide, at a very small cost to participants, an annual outing, a Christmas party, a gala sports day and an annual dance. All of these activities are largely organised by the employees themselves through various social committees. There is a full quota of sports teams.

**Sister Parkinson and Nurse Broomhead in the first-aid room**

# Cure for Absenteeism

ALLEN MANUFACTURING CO. reduced its absentee rate from 5.8 per cent to 2 per cent by the following policies and procedures.

*Employment.* An applicant is screened for reliability and competence for the job. He is then shown the job and introduced to the foreman. The foreman and personnel manager decide whether the man will "fit in."

*Medical Care.* Since illness accounts for much absenteeism, a complete medical and safety service is regarded as a preventive programme. Employment is conditional upon passing a medical examination. Employees can get an annual check-up.

*Foremanship.* The company's aim is to make every foreman a personnel man as well as a technician. At supervisory conferences, monthly meetings and in day-to-day contacts, emphasis is laid on human relations techniques.

*Absentee Records.* The foreman keeps a daily record of absence and lateness. He reports the absences daily to the nurse who keeps a central record. The nurse reports to the personnel director every month with a summary showing number of absentees, department, shift, sex, reason and frequency.

## *Employees Must Report*

*Absentee Procedures.* Every employee, when hired, is impressed with the importance of being on the job, and is advised of the following procedure which must be observed.

(a) The personnel department must be notified if the employee is unable to attend work. If he fails to report after five days he will be considered to have left. (b) If absent for one day or more, regardless of cause, an employee must report to the nurse. (c) If absent a week or more, regardless of cause, he must report to both the personnel department and the nurse. (d) If absent for more than two consecutive weeks, he must report for examination by the company's doctor.

*Absentee Penalties.* Three or more absences during any period of six months is considered unsatisfactory. All absences are counted, whether excused or not, including leave of absence. (The foreman decides whether an absence or lateness is excusable.) Frequency of absence is regarded as more serious than duration.

The foreman interviews any employee absent twice or more in a month. A repeat performance brings the offender a verbal or written reprimand, of which the personnel director and superintendent get notice. The union steward is also notified. If the employee then continues to lose time he is usually dismissed.

Attendance is one of the eight factors considered in evaluating employee performance, and the foreman discusses this with employees in the rating interviews which are held with every employee twice a year.

(Condensed from *Factory Management and Maintenance*, April, 1951.)

★ ★ ★

# *House Magazine Digest*

**The Aiton Magazine** (Aiton and Co. Ltd., Derby) reports a revision in their profit-sharing scheme whereby those long-service employees not at present participating in the scheme will share in the bonus. These employees will receive a percentage of the profits made in each half year. Value of the bonus will vary, but it is anticipated that it will amount to £6 to £8 each person per half year. Long-service employees already receive a badge and gift.

**Delco News** (Delco-Remy-Hyatt, London) gives the results of their Safety Competition. Winning entry of £5 was earned by Bill Plumb for introducing "Prudence" the Safety Girl. Prudence will be adopted as a symbol to be incorporated in all posters and other material used for safety propaganda. (We are informed that safety-minded employees at Delco have already pointed out that Prudence is wearing high-heeled shoes; in future she will be more safely shod in low-heeled shoes.)

**Ingot** (Richard Thomas and Baldwins Ltd.). The editor of *Ingot* and a photographer spent several weeks with R.T.B. families to find out how they lived and worked. The result is a most interesting story in words and pictures of the "People of Steeltown." Their jobs, their hobbies, their homes and their families are all faithfully and sympathetically recorded.

**National Post** (National Cash Register Co. Ltd.) describes how their 1,000 page Overseas C.R.D. Sales Training Manual was created. It represents the concentrated experience of many decades of C.R.D. salesmen throughout the world, and covers all aspects of the actual job of selling as well as a history of the firm and the evolution of its equipment.

**News Reel** (J. and P. Coats Ltd., Glasgow) explains the company's annual balance sheet for the benefit of employees. It deals with the meaning and significance of such items as assets and liabilities, share capital, reserves, creditors, inland revenue, etc., and a brief description of how each £1 of income is distributed.

It also includes an attractive photographic feature showing employees the various countries to which their products are sent and the purposes for which they are used.

**Power To Spare** (Oldham and Son Ltd., Denton, Manchester) reports on the building of their new welfare centre, which comprises two changing-rooms, bathroom, milk bar, storerooms for laundry, etc. Before commencing a shift each lead-worker removes his clothing in the "clean" changing room and dons his working clothes in the "dirty" room. On finishing work the procedure is reversed, a bath being taken before he dresses. The welfare centre is part of a wider scheme under the guidance of the works medical officer for reorganisation of medical facilities at the factory.

**Thorncliffe News** (Newton Chambers and Co. Ltd.) reports that a bonus was given to all employees in recognition of "an exceptional year."

In assessing the bonus of time-workers and piece-workers, total earnings for 1950 were divided by fifty. People who were with the company only part of the year were paid *pro rata*. The minimum qualifying period was one month, for which the employees received bonus representing one twelfth of a week's pay. Employees who had worked part of the year and left the company's employ were also paid, and in the case of men who had died the widows received the bonus.

**Vauxhall Mirror** (Vauxhall Motors Ltd., Luton) reports that 269 accidents occurred in their factories last year. These were classified as follows: Caused by machines, 27; power and hand trucks, 12; handling material, 37; falling objects, 56; striking objects, 50; falls of person, 38; hand tools, 11; other causes, 38. Parts of the body affected: Eyes, 20; toes and feet, 49; cuts and bruises, 121; other accidents, 79. Reportable accidents dropped from 214 to 200.

**Prudence, the Delco Safety Girl, who won £5 for her creator. See story above**

## SAFETY PRIZE

WHITSUN weekend spent amongst the tulip fields in Holland was the reward earned by a 37-year-old toolsetter employed by Joseph Lucas Ltd., Birmingham, as winner in the firm's safety competition. The competition was based on the "What's wrong" theme. Photographs of unsafe practices were displayed and competitors had to place them in order of importance; entries were compared with the list drawn up by the safety committee. Other features of the works safety week were films, talks, demonstrations, and distribution of safety propaganda by girls dressed in specially designed protective clothing. A "safety song" was broadcast every day throughout the works.

(Condensed from *Safety News*, June, 1951.)

★ ★ ★

## CENTRAL TEA SERVICE

A TEA distribution scheme which serves 2,000 employees spread over a considerable area, has been put into operation at the Helsby Works of British Insulated Callender's Cables Ltd.

This was affected by an organised trolley system operating from a *central* base. An existing building was converted into a tea-making station, housing a battery of six steam-heated, constant-flow water boilers. The boilers are mounted so that when the trolleys carrying multipots are wheeled into position, boiling water pours directly into the infusers without any loss of heat.

Great care has been taken with every detail of the tea making process. A special trolley has been constructed for housing infusers after they are withdrawn from the multipots. Holes have been cut in the upper tray of the trolley so that infusers are easily put away in a clean place; a removable lower tray catches the drips.

The distance between the tea centre and outlying parts of the works was minimised by the use of one of the factory's electric trucks. A special rack was fitted over the platform of the truck with compartments for holding multipots and milk cans in place.

The tea-making station is staffed by three girls and a supervisor, but distribution in the factory is assisted by girls from various departments. Tea is poured from the trolley into cups which have been placed on trays in a central position in each department. When the signal sounds for the "break," the appointed employees distribute the cups of tea. Tea is consumed at the machines and each employee can enjoy the full 10 minutes' break.

(Condensed from *Business*, May, 1951.)

**Posters, suggestion forms and overprinted pay packets are pulling in good ideas from British Industrial Plastics Ltd. employees**

## STOP THE CLOCK !

THE Parker Pen Co. have stopped the clock at their Janesville, Wis. plant and told their 1,000 workers to fill in their own time cards and hand them to the foreman. The new system eliminates several minutes time lost by each employee while waiting mornings and evenings in front of the clock. The president, Mr. Kenneth Parker, stated the old clock was an unnecessary nuisance and a form of regimentation.

(Condensed from *Time*, April 9, 1951.)

★ ★ ★

## FEEDING OFFICE STAFF

THE following check-list indicates the main provisions at which every catering establishment serving office workers should aim:

(1) Pleasant, airy and reasonably comfortable surroundings.
(2) A quiet restful atmosphere free from strain and "bustle."
(3) Service fast enough to allow people to go out or play games before and after meals.
(4) Accommodation for hats, coats, umbrellas. Under-table space for handbags, books, knitting.
(5) Well-balanced meals of a rather lighter nature than for active workers. Salad, fruit, milk, fish, cold sweets, snacks of good food value.
(6) Appetite-creating displays of food and very attractive plating of meals.
(7) Well-arranged, bright service counters and assistants neat, clean-overalled and "wholesome" in all respects.
(8) Prices that take into consideration the earning powers of all grades of staff.

(Condensed from *Industrial Welfare*, May/June, 1951.)

★ ★ ★

## "HOMING PIGEONS"

RYAN AERONAUTICAL CO., San Diego, is finding there is a "homing pigeon" instinct among its former employees. As the rearmament programme gets under way the firm is recruiting from its former employees and finding that the appeal of being amongst old friends and familiar jobs is a strong one. The company's personnel manager states that "many pick up their tools and go to work as if they were just returning from a week-end."

(Condensed from *Factory Management and Maintenance*, April, 1951.)

# How To Plan And Equip Your Civil Defence Organization

**No. 1. This article outlines a preliminary programme for civil defence in the factory or office and the equipment required to start basic training. Future articles will deal with the development of this programme**

PLANS for the organisation and training of Civil Defence units in industry and commerce are put forward in a memorandum issued by the Home Office and the Scottish Home Department. (See also page 31 of this issue.)

While there is no compulsion upon employers to adopt these plans, it is hoped that they will co-operate to ensure their efficient application. At present these plans apply to all important industrial and commercial establishments in major built-up areas which employ more than 200 workers; establishments outside those areas, or employing fewer workers, may need the same priority because of their paramount importance in war. Smaller establishments will, for the time being, be covered by the local Civil Defence Corps.

The first step is the appointment of a Civil Defence officer. This need not be a full-time appointment. Arrangements are being made for facilities for training of industrial Civil Defence officers to be made available at the Civil Defence Staff College.

Once trained and appointed, the Civil Defence officer must secure an instructor to train employees who have volunteered to serve. The Local Authority should be asked to help by lending one of their instructors who will undertake the basic training of all volunteers, or will train instructors under the "green certificate" scheme. Under this scheme an instructor who has qualified at one of the Civil Defence Training Schools can train instructors locally; these instructors are issued with green certificates which enable them to undertake the basic training of volunteers, but they must attend a short course at one of the Schools before they are fully qualified. The Local Authority will require to be reimbursed for any expenditure incurred in organising training arrangements for industry.

Civil Defence training in industrial and commercial concerns will follow, in the main, the lines already laid down for the Civil Defence Corps, although some specialist training will be needed to meet particular risks. "Training Memorandum No. 2—Initial Training of Volunteers" and No. 2A "Initial Training of Volunteers (Full Rescue and First-Aid Syllabuses)," (*H.M.S.O.* 4d. each) give an outline of the training required. Basic general training as laid down at present takes 32 hours, but this is subject to revision in the near future, which may cut training time to 22 hours; there is an additional 6 hours training for basic first aid, and 10 hours for basic rescue.

The Civil Defence officer should draw up a defence plan for his premises, for which purpose Appendix 2 of the Civil Defence Industrial Bulletin No. 1 makes suggestions for the various sections required for an industrial unit, i.e. headquarters, wardens, rescue and first-aid. Existing ambulance and welfare facilities may be extended to meet Civil Defence needs, but this is not essential.

Having planned your Civil Defence programme, the next step is to provide the equipment and facilities for training. Accommodation must be available for lectures—the canteen is an obvious choice—and facilities for showing film strips is desirable. A store is needed for equipment and a separate store for practice incendiary bombs.

This bomb store must comply with the provisions of the Explosives Act, 1875. If more bombs or thunderflashes than the quantity allowed for private use (5 lb. if kept over 14 days) are to be stored, the store must be registered with the Local Authority, for which there is a charge of 1s. a year. The store should be a small building, or substantially built cupboard of brick, iron, stone or concrete. It must be secured against unlawful entry by a strong door opening outwards and fitted with a strong lock, or preferably two. The building may be an annex to an out-building, but must be detached from a dwelling-house and situated at a safe distance from any public place or thoroughfare. It should be suitably lined with wood, cement or asphalt.

An incendiary bomb and smoke hut is required for practical training in fire-fighting and a gas chamber for testing fit of respirators. Many Local Authorities provide such facilities and it may be possible for industrial and commercial firms to use these, but some may prefer to provide their own. Specifications for these may be obtained from the Local Authority.

This article is concerned with basic general training. Future articles will

(*Continued on page 45.*)

**Students in training at the Home Office Civil Defence School rescuing a casualty by means of tunnelling**

**The country's first training centre of its type is being run with great success by Macfisheries Ltd. at Reading. Young staff are taught how to handle and sell fish. Scientific methods replace the drudgery of the old in-the-shop teaching. In addition to its immediate benefits for employer, staff and public, the training scheme reveals the potential managers of tomorrow**

# This Pioneer Training Plan Benefits Management, Staff and Public

**By PAUL NUGAT**

UNTIL last year, the fishmonger's trade and craft had prospered in Britain for a thousand years without attempting any formal education for its employees. It was then that Macfisheries, the Unilever interest, decided that it was time to break with the tradition that the knowledge of the fishmonger's craft should be gained by rote over long years of drudgery. This method owed its success in the past to the accepted idea of family businesses and a plentiful supply of boys from economically depressed families, where the immediate advantage of small earnings outweighed considerations of future prospects.

Macfisheries decided to convert Ocean House—their war-time administrative centre in Reading—into a training centre equipped to receive residentially twelve young men, aged 15 to 20, for a one-month's course. Each trainee is first nominated by a local branch manager of one of the company's 400 shops, and then interviewed by Mr. C. V. Dowding, principal of the training centre.

The curriculum, which is gradually being extended, is divided between periods of theoretical study and practical work. Theory covers the recognition and general anatomy of fish; personal hygiene; bacterial infection of fish in shops; care and use of the tools of the craft; the fishing grounds of the Northern Hemisphere; methods employed in catching fish; the gear of a fishing trawler (studied from a scale model).

Skilful execution of the fishmonger's craft depends on his ability to proceed with the "operation" by applying the correct knife and tool in the right sequence. Speed being another essential requisite, the students are taught to commit to memory the correct procedure by "going through the motions" with a dummy fish in the first instance.

Take the whiting, for example. To skin and curl it, the student holds the dummy fish in his left hand, while another student, detailed to act as instructor, tells him to remove the anal fin by cutting the skin along its base on each side. Every movement, from the angle of the knife in relation to the fish, the removal of the dorsal fin, the eyes, the skin, and the final act of curling the tail into the mouth, is carefully checked by the remainder of the class, until the 186 movements involved have been completed.

**Visiting the Macfisheries training school, Field Marshal Sir Claude Auchinleck is pictured here with Mr. C. V. Dowding, principal, and some of the students. Above: Learning how to skin and curl whiting**

The close alliance between theory and practice is demonstrated in the afternoons. In the morning, the students attend their lectures dressed in immaculate short white coats, issued for the course. In the afternoon they appear in long white coats at the double-fronted garage behind this lovely Georgian house. One-half of this garage has been converted into a replica of a Macfisheries shop; the other half has been laid out with twelve blocks and a complete set of tools and appliances as used by the fishmonger to prepare fish and game for display and consumption.

The morning's work having been on whiting, the local Macfisheries' shop will have sent up several boxes of this fish by the afternoon. Step by step, under the guidance of the principal and their instructor, Mr. G. E. C. Wright, the trainees will clean, skin, and curl the whiting, in the knowledge that this fish will be on sale to the public next day. It is the proud boast of this training centre that wastage is non-existent.

Quite as impressive as the thoroughness of the teaching methods is the atmosphere of friendliness and responsibility deliberately fostered. Nobody has more vivid memories of the harshness of their own apprenticeship days than Mr. Dowding and Mr. Wright. Remembering the long years of drudgery, the hefty cuffs of their displeased employers, and the incidental manner in which they gradually acquired the craft, they have concentrated on making the instruction as palatable and the discipline as little reminscent of school or national service as possible. By dignifying the status of the students with the prefix "Mr.", by replacing the raising of the hand to ask or answer questions in class by a novel ritual with a ruler, they have evolved their own code of conduct. It is a code that would shock many a more formal pedagogue, especially the manner in which lessons are leavened with quips and pleasantries.

Every student continues to draw his full wages, from which a nominal deduction of 15s. a week is made to cover his full board, including the issue of a towel, soap, short and long white coats, note-books, and so forth. It has been observed that most students save considerable sums during the course.

For leisure periods, there is a common room in which to listen to the wireless or read, and a recreation room, with a piano, table-tennis, and Russian billiards. Visits to dance-halls and cinemas are only favoured by the students at week-ends. The end of each course is celebrated by a dance at Ocean House, appropriately attended by the female staff of local Macfisheries' shops and their friends.

Candidates for this training come from varied educational backgrounds, ranging from the public school to the war-time evacuated elementary school. Some arrive with deep suspicions about the course, its conduct, and their reception. To break down this kind of prejudice as quickly as possible, Mr. Dowding carefully works out the arrival time of each student to avoid the simultaneous arrival of two students whereby one is kept waiting for his initial interview.

Before they return to their local branch shop, the students leave behind a written record of their impressions of the training centre. The most prized comment: "I came here a cynic. I am leaving here a disciple."

More important from the managerial point of view is the impression they leave behind of their initiative, reliability, and perserverance. In this way, the local manager gets an insight into a young employee's ability that, out of his own observation, might take years to discern. And secondly, when that same student returns to the training centre for a refresher course, there is a record with which to compare his progress.

Out of this training, too, the public will get a better and more enlightened service. Management will be able to sort the misfit from the fit. And from the most fitted tomorrow's managerial class will emerge.

## SIX-POINT TRAINING PLAN

**Macfisheries teach their students both practice and theory. Students learn:**

1. **Recognition and anatomy of fish.**
2. **How and where fish are caught.**
3. **Hygiene for the shop—and themselves.**
4. **Care and use of tools.**
5. **Correct operation of knives and tools, in the right sequence. This must be memorised.**
6. **How to serve the public *quickly*.**

**Under hygienic conditions, students learn how to open up a fish, clean and fillet it and lay it out in the traditional manner**

**Simplified drawings of all kinds of fish are used to make theoretical instruction in filleting clear. Students then practise on dummy fish**

**Delegates to Ro.S.P.A.'s eighth National Industrial Safety Conference heard experts explain how ropes, chains, lighting, maintenance and propaganda can be used to prevent accidents.**

# British Industrial Safety Sets An Example to the World

**Reported by the Assistant Editor**

THE work of the British factory inspectorate and the British safety movement set an example to the rest of the world, claimed the Rt. Hon. Lord Llewellin, president of the Royal Society for the Prevention of Accidents, when he welcomed 530 delegates to the National Industrial Safety Conference at Scarborough. The future progress of industrial safety, he stated, depended very largely on the willingness of every industry to learn from other industries, however different they may seem.

This was the largest conference yet held; and the trade exhibition was double the size of last year's.

The opening paper was given by T. A Mason, B.A., B.Sc. (Oxon) (technical director, Clayton Aniline Co. Ltd., Manchester), whose subject was "A Production Manager's View of Safety:"

"I believe wholeheartedly in accident prevention," said Mr. Mason. Avoidance of an immense amount of human suffering was in itself justification for spending money on accident prevention; but it could also be justified on grounds of cutting costs. Cost of plant and machinery, salaries, etc., could easily be assessed. The other side of the balance sheet was largely a matter of conjecture, but most important sources of revenue accruing from safety were increased efficiency and production, avoidance of costs of legal actions and damages at Common Law, saving of sick pay, saving of management time in dealing with accidents, and improved morale of workers.

One way of assessing this saving in terms of money was to divide the profits before taxation of the company concerned by the number of workers employed. The figure so obtained might be termed the net product per man employed.

Actual achievement of safe work was mainly a technical matter and, in Mr. Mason's view, should be the responsibility of the production manager. Good design was essential and both the production manager and the safety officer should be consulted by the design engineer before schemes for plant were finalised. Given a properly designed plant, accident prevention was a matter of sound preventive maintenance and insistence upon the correct methods of operation.

The safety officer's rôle was that of a specialist in spotting potential hazards and getting them dealt with. He should be able to enthuse the technical staff and keep alive the spirit of accident prevention, but should have no executive authority, except over his own department. He should be given proper management rank—just below that of works manager and equal with departmental managers. He should not be recruited from technical staff, but selected mainly on account of his personality; he must be a good mixer, intelligent and enthusiastic about his job. Safety officers, concluded Mr. Mason, were born rather than made.

**Lord Llewellin, Ro.S.P.A. president, inspects a safety helmet on one of the trade stands**

## *Using the Right Rope*

"THE Rope to Use" was the subject of a lecture by A. B. Watts (director, British Ropes Ltd., Doncaster). Reviewing various kinds of ropes available, Mr. Watts stated that *fibre ropes* were pliable and easy to handle, would not crush or damage loads, but were weak for their size and would not withstand heat. *Nylon rope* had greater strength and elasticity than any other; would stretch 40 per cent of its original length before fracture. *Wire ropes* were available in great variety to meet diverse demands. Types most generally used in factories were: round stranded; flattened stranded; multiple stranded: About 95 per cent of ropes were round stranded.

Mr. Watts described in detail the construction of various types of ropes and their uses, and the following is a résumé of his recommendations.

*For lifts and elevators.* Designs differ, but worst feature to be considered was usually repeated bending often over sheaves of small die. Equal lay ropes, preformed, show to advantage—e.g. 8 by 19 (Seale); 6 by 19 (Filler Wire); the "everyday rope" 6 by 19; 6 by 19 (Seale).

*Cranes.* Main feature to be considered was flexibility, but also shock loading, misaligned loads, crushing and spin, wear by loss of area. Recommended: 6 by 19 or 6 by 37, preformed, preferably equal lay. If spin must be considered, use one of the non-rotating group, e.g. 17 by 7 or 37 by 7. Or semi-non-rotating, 4 stranded each of 30 or 37 wires (round stranded); or 4 oval stranded each of 34 or 55 wires.

*Earth-moving machinery.* This

was a problem because practically every deteriorating agent was at work. Recommended: equal lay, preformed, e.g. 9 by 9 by 1 (Seale).

*Ground haulage.* Ropes usually failed through excessive wear. Recommended: 6 by 7 group, or flattened stranded 6 by 5 over triangle or 6 by 6 over triangle.

Mr. Watts concluded by making a special appeal to delegates to make wire ropes last as long as possible because supplies of steel rods for wire drawing had been severely curtailed.

## *Using the Right Chain*

ANOTHER practical lecture was that given by W. Gibson Biggart, B.Sc. (managing director, Watson and McLean Ltd., Glasgow), on "The Chain to Use." He stated that research was improving both materials and methods of chain manufacture. There was a wide choice of steel now available to comply with B.S.S. 590/1949 for mild steel chain and B.S.S. 1663/1950 for higher tensile steel chains.

Best chain to use for normal lifting operations was one which conformed to B.S.S. 1663/1950. Such a chain would give satisfactory service and be reliable even under conditions of misuse.

For special problems a balance had to be struck between requirements of tensile strength, ductility, wear resistance, temperature and the availability of material and ability of the manufacturer to process it.

Safe working load for wrought iron chains to B.S.S. 394 was 6d² tons, with a minimum breaking load of 27d² tons. With steel chain to B.S.S. 590 safe working load was the same as for wrought iron but minimum breaking load was increased to 30d² tons. For steel chain to B.S.S. 1663 safe working load was increased from 6d² tons to 8d² tons, and minimum breaking load increased to 40d² tons or even more. Mr. Biggart recommended that the safe working load of B.S.S. 1663 be kept at 6d² tons and the increased breaking load of 40d² tons used as a safety margin.

Before chains were used two important factors had to be considered: effects of shock loading, and alteration of safe working load that took place in a multiple leg sling as angle between the legs increased.

Where speed was increased or decreased overloads of up to five times normal loads could be sustained. Careful slinging and steady lifting were essential. *Safety Pamphlet* No. 3, issued by the Factory Department (*H.M.S.O.* 1s. 3d.) recommended that the safe working load for short link chains should not exceed 6d² tons under normal conditions, 5d² tons where there was special danger to life or limb, or 3.5d² tons where chain was subjected to shock or heavy wear or for lifting heated metal or liquid.

It was often assumed that a multiple leg sling would safely lift a load equal to the safe working load of one leg multiplied by the number of legs of the sling. This was only true when the legs were in a vertical position; as the angle increased so the safe working load decreased.

Mr. Biggart asked that when ordering new chains users should give full information to manufacturers of: (a) type of sling or chain; (b) type of end fitting; (c) material specification; (d) angle of legs at which chain sling would be used; (e) safe working load required at given angle; (f) length of sling bearing to bearing; (g) purpose for which sling was required. This would ensure that the tackle supplied was the best for the job in hand.

## *Using the Right Poster*

J. H. RICHARDSON, O.B.E. (formerly publicity controller of the G.P.O.), spoke on the "Use and Limitations of Visual Propaganda." Propaganda, stated Mr. Richardson, was only the handmaiden of good management and not a substitute for it. The "moral fervour" of management must be behind all effective accident prevention propaganda.

There was no such thing as a "miracle" poster. A lot of time and money must be spent on publicity before any permanent results could be expected. Quoting a maxim of the founder of Crawfords, the well-known advertising agency, he said good publicity was based on Domination —Concentration—Repetition. Most important was Repetition.

Giving some practical hints on the making of good posters, Mr. Richardson said that the most important factors were legibility, visibility, a clear statement of the message, and the power to attract attention.

Visibility depended upon geometric proportions. Words took their place in the design with other elements; the eye should read down naturally, e.g. the "Z" formation.

Posters should state their message in a terse, urgent way. Mr. Richardson recommended:

Use positive imperatives; say simply what you want people to do.

Don't ask questions in posters; you usually get "back answers."

Don't use "if" or "but"; a poster is not a place for discussion.

Words should be used vertically and read easily; don't play tricks.

Don't try to reproduce complicated machines; use only one simple vital part.

Above all, be simple and direct.

**Posters should deliver their message tersely and urgently. This is a good example**

### 5 POINTS FOR SAFETY OFFICERS

1. **The safety officer's rôle is to find, and deal with, *potential* hazards.**
2. **Good publicity—in the factory as elsewhere—is based on the formula Domination—Concentration—Repetition. Most important is Repetition.**
3. **Remember the seven points which the manufacturers must know if they are to supply the chain you really want.**
4. **Choose the right rope for the job, and see that it is looked after carefully.**
5. **Planned and observant maintenance cuts down accidents.**

Posters must attract attention, but this was not the final aim. First impressions were not the most important; it was the impressions people took away with them which counted.

Mr. Richardson was doubtful of the value of humour in posters, especially those dealing with serious subjects. "Gruesomeness" was effective if properly used.

Siting of posters was most important, and in a factory where many subjects were competing for workers' interest, Mr. Richardson recommended that publicity be co-ordinated at a high level.

## *Using the Right Lighting*

"LIGHTING for Industrial Efficiency" was the subject taken by H. C. Weston, F.I.E.S. (Institute of Ophthalmology). Industrial lighting had two functions: to ensure safe conduct at work, and to provide a bright and cheerful atmosphere which would improve workers' morale.

Experiments over the past 30 years in the relationship between illumination and industrial performance had shown that despite the diversity of factory work jobs could be classified into six standard categories for lighting purposes. Full information could be obtained from the lighting code published by the Illuminating Engineering Society.

Mr. Weston illustrated his lecture with pictures of lighting arrangements. Typical of the ingenuity shown are the following arrangements:

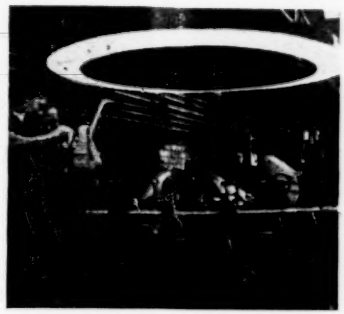
A vertical diffusing background screen was used against which operatives could do very fine work. Lighting was by continuous fluorescent tubes.

A shop with no natural lighting had mock windows made of Perspex behind which were fitted fluorescent tubes to give an illusion of daylight.

Engraving machines were placed against large windows to secure maximum daylight. At night a number of lamps threw light on to the drawn window-blinds which diffused and reflected the light on to the working area.

In a paint shop, where internal illumination would have been unsafe, good illumination was secured by banks of fluorescent tubes placed outside the shop behind long glazed walls.

Circular cold cathode lighting was



**Circular lighting for a circular machine**

installed to light a circular machine manufacturing glass buttons for miniature radio valves. The light fittings were installed in a conical hood which was the termination of a fume extractor duct.

## *Using the Right Maintenance Technique*

NEXT came a talk on "Planned Maintenance as a Safety Measure" by S. E. Fox, Grad.I.Mech.E., A.M.I.Plant.E. (plant engineer, Hoover Ltd., Perivale). The problem of increased productivity in industry today was being met by increased mechanisation, stated Mr. Fox. As mechanisation proceeded so accident potential would increase unless efforts were made to design plant and equipment which could be operated safely and unless the plant engineer ensured that safe conditions were maintained.

In organising preventive maintenance, good accommodation and equipment must be provided for maintenance staff, including office accommodation where work could be planned and co-ordinated and records of machines kept.

Preventive maintenance was a commonsense analysis of possible sources of trouble combined with technical appreciation of why things happened and how they could be prevented. It could be carried out by allocating a number of machines to a particular foreman or maintenance man with responsibility for keeping them in running order, or by producing a maintenance schedule for each machine and carrying out inspection at regular intervals. Mr. Fox recommended the latter method.

Inspection could be carried out by a "roving maintenance team" working to a list provided by the maintenance office, or by maintenance men permanently employed in specific departments. Mr. Fox recommended "resident fitters" as they became familiar with the machines in their care.

Referring to accidents from handling goods, Mr. Fox stated that in his company in 1949 some 24.6 per cent of accidents were due to material handling. Power and fork lifting trucks and overhead conveyors were installed with the result that the accident figure fell to 5 per cent in 1950.

**"In organising preventive maintenance, good accommodation must be provided for the staff, including office workers." Here is the Hoover Ltd. maintenance office**

# Birmingham Firms Show How They Are Safeguarding Their Personnel

By The EDITOR

IF you want to increase productivity, you must make your factory a safe place to work in. That was the theme of the first Industrial Safety Exhibition held in the Bingley Hall, Birmingham, from May 30 to June 2, by the 150-member Birmingham and District Industrial Safety Group. As Col. M. A. Wolff, joint managing director of Tubes Ltd. put it when speaking at a luncheon given by his firm in connection with the exhibition: "We shall not get satisfactory production unless all of us are safety minded. Production requirements are bound up with safety-first measures, such as clear gangways, proper stacking of material, avoidance of dark holes and corners for junk, proper lighting and the intelligent use of colour in painting a workshop."

His colleague, Major W. F. F. Fraser Scott, M.C., director of training and welfare, Tube Investments Ltd., said it was the inescapable duty of manufacturers to prevent the impairment of capacity. He sometimes wondered whether it would not be a good thing if all factory managements—or even managing directors—were required to visit every casualty admitted to hospital and every widow of a fatality. Factories could not be made safe by Act of Parliament but only by the people working in them.

At the official opening luncheon given by Joseph Lucas Ltd., Mr. R. Bramley-Harker, H.M. Superintending Inspector of Factories, said that the time had arrived for industry to recognise that the safety officer should be taken into the counsels of both production and management. He should have the status and career value in his job to make it well worth his while to work as a professional man. Accident prevention should be started on the shop floor and "worked upwards to the boardroom—and even to the shareholders."

Mr. A. B. Waring, joint managing director of Joseph Lucas Ltd., said his own firm had reduced accidents by half during the past year or two by obtaining the support of everyone in the factory for safety measures.

Though not primarily a trade show, the Birmingham exhibition contained a number of trade exhibits, some of which were reviewed in our May issue. Others will be illustrated and described from time to time in our "Industrial Equipment" feature.

A large section of the exhibition was devoted to safety equipment specially designed for, or by, firms who have had an accident on their premises, of a type for which no preventive device exists. The Birmingham Aluminium Casting (1903) Co. Ltd., for instance, showed their patented escape hatch for a core-stove, by means of which an attendant accidentally shut into a stove can escape without assistance from outside. Singer Motors Ltd. showed an ingenious sleeve guard for covering one end—when not in use—of a double-ended polishing lathe spindle.

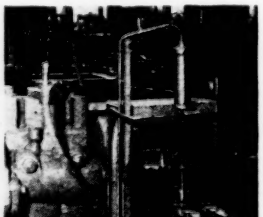
The General Electric Co. Ltd., Witton, had fitted up a press with a photo-electric safety guard. Provided care is taken to ensure (a) that all lamps in the projector are operating, and (b) that the press brake is in good working order, this type of guard is foolproof and allows complete freedom to the press operative.

A "home made" exhibit which attracted a lot of attention, especially from the big parties of apprentices who arrived at the hall at frequent intervals, was the dust explosion chamber built by Mr. L. Cross, training officer of Bakelite Ltd. His purpose was to show the dangers of dust in the factory, and how the risk of serious explosions can be minimised by fitting pressure release flaps at intervals in the ducting.

Among other good ideas shown by members of the group were: machine painted in such a manner that removal of a safety guard is indicated by a contrast in the colour of the paint (Dunlop Rubber Co. Ltd.). Automatic two-way guard for use with milling machines where normal fixed guards are unusable (Austin Motor Co. Ltd.). A complete record system for the register, inspection and testing of lifting tackle (Morris Motors Ltd.).

Throughout the run of this very interesting and well-organised exhibition there were continuous showings of safety and welfare films, including "Accidents Don't Happen, They are Caused," a series of five films made for the Canadian Government and lent by I.C.I. Metals Division.

A safety class for new operators in progress at the B.S.A. factory



Air-operated guard adaptable for single or gang milling cutters. Designed by Morris Commercial Cars Ltd. for their own use

# Civil Defence in Industry

## *Organisation to Start at Once*

**ALL industrial and commercial concerns employing more than 200 workers are asked to begin organisation of civil defence units at once; smaller establishments, or those outside built-up areas, unless of paramount importance in war, will be covered by local divisions of the Civil Defence Corps.**

Plans drawn up by the Home Office are published in a "Preliminary Memorandum on the Organisation of Civil Defence in Industrial and Commercial Establishments," *H.M.S.O.* price 6d. Copies may be obtained by *written application* only.

The memorandum suggests that as a first step, each establishment to which the scheme applies should appoint a whole-time or part-time officer to draw up a civil defence scheme and to recruit and train instructors and staff.

The strength of the industrial civil defence unit is based on the number of persons at work at any time of the day, as shown in the following table. If more than one shift is employed the numbers to be trained must be increased *pro rata*.

| *Number of Workers* | *Up to* 500 | 1,000 | 2,000 | 5,000 |
|---|---|---|---|---|
| Headquarters Section: Telephone operators ... | 1 | 2 (1×2) | 3 (1×3) | 3 (1×3) |
| Messengers ... | 2 | 3 | 4 | 6 |
| Warden Section: Senior warden | 2 | 4 | 8 | 20 |
| Wardens ... | 10 | 20 | 40 | 100 |
| Rescue Section ... | 16 (2×8) | 32 (4×8) | 48 (6×8) | 96 (12×8) |
| First-Aid Section | 4 (1×4) | 8 (2×4) | 12 (3×4) | 16 (4×4) |
| Key men ... ... | Existing staff augmented as required | | | |
| Fire protection ... | Further guidance to follow | | | |

(i) The figures in parentheses indicate the number of parties and the strength of each.
(ii) The headquarters section strength above excludes the control officer, his deputies, and the heads of sections.
(iii) The peace-time aim should be to recruit at least one-third of the overall strength.

In the initial stages of recruitment to industrial units it is contemplated that the age limits should be those at present applicable to the Civil Defence Corps, i.e. those *eligible* would be: (a) Men (other than those in Class Z or equivalent reserve) and women aged 30 and over; (b) For ambulance duties only—women of 18 and over; (c) Men of 18 to 29 who have been declared medically unfit for H.M. Forces but are sufficiently fit for civil defence service.

The memorandum gives details of the work of the various sections required in an industrial unit, and the equipment required. There must be provision for a suitably protected control post, although at the present time it will not be necessary to do more than determine the site and make the necessary communication arrangements.

Protection against fire is to be the subject of a separate memorandum and re-organisation of works fire brigades should be deferred until this is published.

Expenditure incurred by industry in making civil defence arrangements will be classed as "revenue" expenditure, and will be admissible as a deduction in computing trading profits for income tax.

The Home Office and the Scottish Home Department will have the main responsibility for supervision of civil defence services, including the provision of shelters, fire protection arrangements, camouflage, black-out and the warning system.

The local authority will have responsibility for the restoration of supplies, services and maintenance of life of the community. Communications between industrial and commercial establishments and the civil defence control must be planned with the local authority.

The first need of industrial and commercial civil defence is the training of instructors. Civil defence officers should assess requirements and make an immediate approach to the local authority's civil defence officer to discuss what training arrangements are possible. Vacancies at the Civil Defence Staff College and at the Home Office Civil Defence training schools will be allocated to nominees from industry and commerce, but owing to the great demand for vacancies, the majority of instructors required in business houses must, in the first instance, be trained locally.

(*See page* 24.)

## New Arbitration Proposals

THE provisional draft of a new order to replace No. 1305 is being considered by the British Employers' Confederation, the nationalised industries, and the T.U.C.

The suggested provisions aim to maintain a national arbitration tribunal but end the prohibition on strikes and lock-outs. The obligation on the part of employers to observe "recognised terms and conditions" has been retained, but has been re-phrased in an effort to meet the employers' objections to its inclusion by leaving it to the tribunal to decide whether an employer should recognise such terms and conditions.

One effect of the new proposals would be to accelerate arbitration procedure by reducing the time, at present 21 days, within which the Minister may refer disputes to the tribunal.

The Minister would be given a good deal more discretion than under Order 1305. For example, in deciding whether to refer a dispute to the tribunal while a strike is in progress, or in deciding when an organisation reporting a dispute is sufficiently representative of the people concerned.

After discussion of the draft proposals independently by the employers, the unions and the nationalised industries, a joint committee will examine the proposals in detail, and finally the Ministry of Labour will frame the new Order.

## 1,389,000 Working Days Lost in 1950

STATISTICS compiled by the Ministry of Labour show that the aggregate number of workers involved in stoppages which began in 1950 was 302,000, and the total number of working days lost was 1,389,000. Even so, this was the lowest record since 1941.

Disputes in the coal mining industry were responsible for nearly one-third of the time lost. Two stoppages in the printing industry accounted for a loss of 200,000 working days, and another 100,000 were lost in the London docks.

Although wage questions accounted for two-fifths of the total stoppages and nearly half the number of people involved, disputes over working arrangements (other than wages or hours) were responsible for nearly one-third of the time lost and one-fifth of the workers involved.

## P.A.Y.E. Effect Exaggerated

COMPLAINTS by workers that overtime does not offer an adequate reward for extra effort because of heavy deductions for income tax are not generally upheld by the T.U.C. General Council.

In giving evidence to the Royal Commission on Taxation of Profits and Income recently, the General Council maintained that the effects of P.A.Y.E. were exaggerated, and the introduction of a special rate of tax for overtime would not be justified. The Council believed that more should be done to let taxpayers know how P.A.Y.E. works and how it effects them.

The Council felt that it would be

beneficial, while maintaining the general structure of P.A.Y.E., to increase the number of steps between the point where an individual became liable for tax and when he began to pay the standard rate. While the standard rate is 9s. 6d. in the £ the number of steps should be increased by charging at least three reduced rates, e.g. 3s., 5s. 6d. and 7s. 6d. on the first £100, the next £100 and the next £50 respectively. They also agreed that redistribution of income through taxation had gone about as far as was practicable.

## Ministry Reassures Potteries

OFFICIALS of the Ministry of Labour met representatives of employers and unions in the pottery industry last month to discuss best methods of meeting labour requirements of R.O.F.'s at Swynnerton and Radway Green. In view of the continuing importance of the pottery industry in the export drive, the Ministry assured employers that every effort would be made to recruit labour from outside that industry, and skilled pottery workers would be advised to remain in their jobs.

## Railway Agreement

THE Railway Executive and the unions have reached agreement on three of the main conditions attached to the wages award granted recently to railway employees.

The practice of calling up footplate staff and guards will be discontinued not later than July 30, but everything possible will be done to find alternative employment for displaced staff. An understanding has been reached on the question of lodging turns which will ensure less waste of manpower and greater efficiency. With regard to the London van guards (about 2,600 of them, mostly women), it has been agreed to dispense with them wherever there is little danger of pilfering, but to retain a small pool at each depôt to help the drivers.

## Higher Education for Workers

MR. F. LEE, Parliamentary Secretary to the Ministry of Labour, speaking at the annual conference of the General Federation of Trade Unionists last month, advocated the setting up of schemes by which trade union students showing more than average ability could go on to technical colleges and universities.

Such workers should be able to undertake studies peculiar to their own industries. The Ministries of Education and Labour would be ready to place their experience at the disposal of the unions.

## I.I.S. Form Leicester Section

A LEICESTER section of the Institute of Industrial Supervisors has been formed. This is the 18th section to be started since the institute was founded in 1948. A provisional committee is planning a programme of activities to start in September; on this committee are foremen from the engineering, electrical, hosiery, textile and boot and shoe industries. Acting hon. secretary is Mr. F. M. Wright, of 193 Wicklow Drive, Leicester.

## Retiring Age

THE Civil Service Clerical Association have accepted conditionally the Government's proposal to retain staff beyond the normal retirement age of 60, but have opposed the intention to appoint some ex-officers from the armed forces to high-level posts in the Civil Service.

**SCHOLARSHIP WINNER**

**Miss Sonia Mitchell, left, a student on the two-year laundry management course run by the Institution of British Launderers and the British Launderers' Research Association, receiving her diploma as winner of the Silver Jubilee scholarship awarded by the Association of Women Launderers. The scholarship has enabled Miss Mitchell to continue her studies for a year at the Institution and the Research Association. Miss Mitchell was one of three women on the two-year course. All passed their examinations, Miss Mitchell obtaining a first-class pass with distinction in textiles and laundry technology. The A.W.L. have just inaugurated a £250 Festival of Britain scholarship for women management trainees in the industry**

## One Week's Holiday for Tweed Makers

TWEED industry workers in the Hawick area are receiving an extra week's pay at holiday time in lieu of a second week's holiday with pay. Hosiery industry employees in the area recently were given two weeks' paid holiday, as against one week formerly.

Tweed manufacturers hope to bring their factories into line next year but point out that the immense demand for export cloth makes it impossible to allow a second holiday week this year.

★ ★ ★

## WAGES NEWS AND VIEWS

**CIVIL SERVANTS**—Delegates to the annual Conference of the Civil Service Clerical Association passed resolutions asking for further pay claims to be submitted on any upward movement of the cost-of-living.

**DOCTORS**—By a large majority the annual representative meeting of the British Medical Association held last month, decided to submit their claim for higher payments under the National Health Service to arbitration.

**FOREMEN**—A resolution that cost-of-living increases should be merged in the basic salary rate, and that foremen should be paid not less than 20 per cent more than the men they supervised, was adopted by a conference of the Association of Supervisory Staffs, Executives and Technicians.

**LIGHT METAL WORKERS**—At their annual meeting last month the joint committee of the Light Metal Trade Unions, representing nine unions with a membership of 84,000, prepared a new wage scheme for submission to the employers; this will mean an increase of 15s. to 16s. a week for the ordinary employee.

**MINERS**—A conference of the National Union of Mineworkers (Scottish area) decided last month to press for a minimum wage of £7 10s. for all underground workers, with corresponding adjustments in other grades.

**POST OFFICE WORKERS**—An increase of 10s. per week for postmen at the age of 21 in class 3 post offices has been awarded by the Civil Service Arbitration Tribunal, giving a minimum of £5 a week to adult men. Other men in all classes, postmen and postmen higher grade, telegraphists, postal and telegraph officers, received an increase of 8s. a week at 21 and over. Women received a consequential award of 6s. 6d., and juniors 4s. per week. Male telephonists have been granted a pay increase of 8s. per week.

**SHOP ASSISTANTS**—Adult male workers in retail Co-operative stores

have been granted a wage increase of 9s. a week, and adult females 6s. The union's application was for 15s. a week.

## The House The Clubs Built

SOME 152,700 boys and girls from the National Association of Girls' and Mixed Clubs have their own "Ideal Home Exhibition" at the Kingsway Hall, London, W.C.2, from June 25 to July 12. They have made all the furniture, designed the furnishings, painted pictures, and produced special crafts typical of their counties for the show house.

To give visitors a further picture of how the club members spend their leisure, they will also show exhibits for a hobbies competition which has sections on designing, photography, magazines, home-making, etc.

## Cadbury's Standardise Colour Schemes

AS a result of experiments which began in 1946, and have been carried out by Mr. Norbert Dutton of the design research unit, Cadbury Bros. Ltd., Bournville, six experimental schemes in colour have now been fully tried out and certain standardised shades finally selected for use in this well-known factory.

Blue has proved most effective for electrical switchgear. Pale blue as the environmental colour has been shown to lessen strain in the workshops where there is swiftly moving, conveyor-borne machinery and components such as tins or boxes.

A clear sunny primrose has been chosen for the interiors of window frames, while machines are painted in a quiet blue grey.

The only bold splash of colour in connection with the machines is the striking orange with which the insides of guards are coloured. This has proved a safety device of notable efficiency because if the guard is removed, or not in the correct position, the operator or supervisor immediately notes that something is missing.

## Women *Are* the Weaker Sex

EXPERIMENTS in which children and students, aged from four to thirty, were tested on a treadmill, have shown that women are not equal to men in physical work, but that before adolescence girls are equal to boys. Experiments have been conducted by Dr. P. Olaf Astrand of Stockholm, who reported that 200 had taken part in these tests. They ran a treadmill at a commencing speed of 4.5 miles an hour, and the experiments were repeated until speeds were reached which exhausted them in five or six minutes.

It was found that in children up to twelve there was very little difference in performance. But capacity for physical work showed a steep decline in the case of women, the adult woman's capacity was 30 per cent that of a man, or 20 per cent lower in relation to body weight. The women with the highest capacity just reached the level of the men with the lowest.

## The Fight Against T.B.

HOSIERY firms and their employees in Hawick are co-operating to fight tuberculosis by organising mass inspection by radiography. Inspection is being done during working hours and volunteers number some 90 per cent of the personnel.

Metropolitan Vickers and Newton Victor Ltd. employees in Motherwell have formed a committee to inaugurate a fund for the benefit of those of their number who are suffering from tuberculosis.

Some 200 workers have agreed to a voluntary policy of working overtime to raise the £1,200 necessary to send four girl workers to Switzerland for treatment.

## Factory Girls "Adopt" Orphans

GIRL employees in Scottish factories are tackling a worth-while scheme in playing "aunts" to children in their county institutions.

In Newhouse, Lanarkshire, girls in one factory department adopted children in a certain home. Other departments followed, taking an interest in different orphanages and homes. Now the girls are arranging parties, outings and entertainments for these children as a regular part of their welfare work.

## Festival Party

FORTY-EIGHT coaches left the works of Rubery Owen and Co. Ltd., Darlaston, on Saturday, June 2, 1950, to take more than 3,000 employees to the station where they left in four special trains for a visit to the Festival of Britain in London. The engines carried special headboards bearing the firm's name.

## In Brief

THE Institution of Works Managers has recently published a new directory of members, giving details of the positions held by its members.

The last directory was issued four years ago, since when the merger between the Institution of Factory Managers and the Institution of Works Managers has been consolidated and membership has trebled. Copies can be obtained from the offices of the Institution at 67-68 Chandos Place, London, W.C.2, at 10s. 6d. each.

**Efficiency team** for London Boroughs has been set up by the Metropolitan Boroughs' Standing Joint Committee. The team will undertake systematic reviews of executive machinery and departmental methods of constituent councils and suggest methods of securing administrative efficiency in the council's services.

**One Saturday recently the Chelmsford works of Crompton Parkinson Ltd., were "open" for employees to bring along their families and friends to see how the work is done. More than 3,000 people attended. Parties were conducted on either a morning or afternoon tour lasting about three hours. Every visitor received a souvenir programme giving a brief account of the company's history. Refreshments were served in improvised cafeterias in the various departments.**

# The Minister Said . . .

## *Answers to Questions in the House*

### *Employment (Dock Labour Board Recommendations)*

Responsibility for modernisation of sanitary conveniences and various other improvements in health and welfare facilities has been accepted by the port authorities and firms concerned and is being proceeded with. It was not felt that further legislation was required at the moment.

(*Minister of Labour and National Service, June* 5, 1951.)

### *Industrial Clothing (Expenses Allowances)*

Allowances for industrial clothing agreed between the Inland Revenue and the unions vary according to an employee's trade and conditions of employment; there is no single rate applicable throughout industry. Such allowances usually include cost of upkeep of tools.

The individual employee can claim relief for any excess expenditure incurred above the allowances agreed.

(*Chancellor of the Exchequer, June* 5, 1951.)

### *Civil Defence (Training)*

As a result of experience over the past year, the syllabus for basic training for Civil Defence has been revised so that training can be reduced from 32 to 22 hours without loss of efficiency.

(*Secretary of State for the Home Department, June* 7, 1951.)

* * *

After completion of basic training, Civil Defence volunteers will have section training, during and after which there will be practical training involving, where possible, adjoining divisions of Army units. In this way it is hoped to maintain the interest and efficiency of members of the Civil Defence corps.

(*Secretary of State for the Home Department, June* 7, 1951.)

### *Employment (Foreign Workers)*

Former prisoners of war who have been in this country at least four years since becoming civilians can apply for release from present restrictions on their employment. From January 1, 1952, all former prisoners of war will be eligible to apply.

(*Minister of Labour and National Service, June* 7, 1951.)

---

**MANAGEMENT BOOKSHELF**

# Food for Thought

SUCCESSFUL FOOD COSTING AND PORTION CONTROL, by Henry Smith, F.H.C.I. Practical Press Ltd. 6s.

THIS book is well worth the attention of every caterer. To the manager of the industrial canteen its pages provide much in the way of sound advice and offer a reasoned approach to the problems of successful catering.

In his introduction, the author forestalls possible criticism by stating that it was not possible to produce a complete work at such a reasonable price. The book certainly could be enlarged to advantage, but even so it is very good value.

The title suggests a textbook, but the subject matter is written in a bright and breezy style. The theme of the book is the achievement of greater efficiency by way of constant supervision from the buying of the food to its service to the customer.

The book is divided into two parts. Part I deals with food costing, the mechanics of which are explained simply. Under this heading the following subjects are considered:

(1) Food cost total;
(2) Ratio of costs per course;
(3) Operating costs;
(4) Selling price of a dish;
(5) Percentage;
(6) Short cuts to unit costs;
(7) Over-preparation;
(8) Garbage and waste.

There is also a chapter on shrinkage by roasting and bone loss of meats, together with tables in support of the practice of roasting at a temperature which is lower than that which some cooks are accustomed to use.

It is a pity that this subject was not discussed more fully, for the time factor is also a point to be reckoned with. By experiment one may or may not get results comparable with those tabulated on the shrinkage by roasting and bone loss of meat charts, but as the author suggests—try it for yourself and see what meat is saved.

Part II deals with portion control, and in it such matters as the following are considered:

(1) Size and cost of a portion;
(2) Balancing the portions and costs;
(3) Standardisation of portions.

The use of standard ladles, scoops and measures is insisted upon, and the sizes of plates is touched on.

Portion control charts set out the recommended sizes of portions of different kinds of foods and dishes. It is suggested that one copy of the chart should be hung in the kitchen and one by the service counter. It is not, however, insisted on that the sizes of the portions as given in the book will suit every type of establishment; accordingly, each establishment should prepare one to suit its own needs.

---

## INDUSTRIAL RELATIONS

(*Continued from page* 16.)

expected to be promoted and supervise the work of others without having been given the tools for the job. There is much more evidence of supervisory training. (In mentioning this point I would advise all those interested to read the reports of the recent teams sponsored by the Anglo-American Productivity Committee, sent over to study this particular question of training. The reports referred to are not yet published but are being compiled at the present time.)

(8) The Americans do not resent, nor do they oppose increased mechanisation and change of processes. Effort-saving devices are accepted more readily than in British industry.

There is no doubt that in many ways, especially in technical development and training methods, we have much to learn from America. On the other hand, our form of legislation, our experiences over a greater number of years in industrial relations, the confidence which exists between the trade union movement and industry, the voluntary nature of our negotiating machinery, are all aspects of Great Britain's industrial life where we have something to show America. Therefore I hope that collaboration and exchange of experience between our two countries will continue and develop to our mutual advantage.

# Tell Employees the Facts About the Higher Canteen Charges

By PETER MARTIN

**By the time this issue is printed, canteen managements will have decided whether to pass on to their customers the price increases officially recommended. Those who are doing so are faced with this problem—how are the reasons for these increases to be put over to employees long used to paying less? Our contributor has some suggestions to make, and in a future article will discuss how these increases can be kept to a minimum.**

A STATEMENT published in the public press last month jointly by the Industrial Catering Association, the Industrial and Staff Canteen Division of the Caterers' Association, the Catering Managers' Association and the Railway Canteen Committees' Association announced that prices of meals and beverages in industrial canteens would have to be increased owing to rises in operating costs which could no longer be carried either by the industrial managements concerned or by the catering contractors, where the latter are responsible for providing the meals service.

Those people who do not have the daily task of managing personnel in a large factory or who are not familiar with trade union negotiations may, perhaps, be forgiven for imagining that the man—and woman—in the factory, the railway depôt, the transport garage, the docks, the gasworks or power station will quickly and readily accept the new prices and pay them without a murmur, in view of the fact that he has for some time been compelled to dip his hands more deeply into his pocket when eating out in profit-making establishments. But it is not so easy as that. Having come to look upon the meals-at-work service as a right, canteen users regard it also as something which the employer can well afford to subsidise, no matter what the cost. Some workers even have the strange misconception that their employers make a good thing out of canteen meals.

There is only one way to convince the doubters. That is to be properly frank with them about the facts and figures of canteen operation. Maybe not all will grasp detailed breakdowns of cost which are put before them, but their more intelligent leaders will. In any event, people like to be given the "gen," even if some of it appears to be too complex for them to understand. A bald statement that canteen prices must go up because of increased costs does not allay suspicion or carry conviction. Facts—some of which the men's wives will substantiate from their own housekeeping budgets—will carry much more weight. Comparisons with prices charged for comparable feeding outside the factory may help, too.

Then tell your employees the facts. Tell them, for instance, that canteen managers and industrial catering contractors have received no favours from suppliers when purchasing food, equipment, fuel, lighting and the thousand-and-one items which are essential for running their service. They have, of course, been able to buy on wholesale terms in the main, but that is no greater a concession than any other large-scale purchaser receives. Canteen operating and maintenance costs have, indeed, risen exactly as have those of commercial catering concerns. Wages, of course, have been laid down by the Canteen Wages Board Orders, signed by successive Ministers of Labour and carrying the force of law and the rates have been increased more than once since this wage-fixing machinery was set in motion under the Catering Wages Act of 1943. Moreover, such has been the difficulty of obtaining an adequate labour force for industrial catering in most areas (especially where other light industries offered attractive wage-plus-bonus rewards to women and girls) that wages above the minimum legal figures have had to be paid by large numbers of canteens.

Most people know how food costs have risen and that the Government has decided not to step up the food subsidies *ad. lib.*

Although the rate of increase has been controlled, such things as crockery, cutlery, cooking stoves, sinks, kitchen appliances (potato peelers, mixers, beaters, slicers and the like), utensils, washing and cleaning materials, overalls and many others cost far more than they did when the prices of meals and beverages were first fixed at their pre-increase levels. Heating, lighting and ventilation (where this is mechanically achieved) are more expensive, too, charges for laundering overalls, caps, cloths and towels have advanced—in fact, there is no item which is not dearer than it was even a year ago.

By how much canteen prices should be raised and whether any economies can be effected in the service, without lowering its standard, to reduce the increases to an absolute minimum, is another story.

**Canteen equipment in a festive setting. Stott Magna boiler, urn and stainless steel Multipot in the Garden Buffet, "People of Britain" pavilion, of the South Bank Exhibition**

# BOOKS *for increased efficiency and Production*

**From The BUSINESS Book Centre at 180 Fleet Street, London, are published a range of books and journals which are making a practical contribution to successful commerce.**

**Journals**

BUSINESS

The Journal of Management in Industry. Every aspect of successful management technique.

(Monthly) 25s. per annum

ADVERTISER'S WEEKLY

For 38 years the "Organ of British Advertising. Every aspect of advertising and publicity.

(Weekly) 52s. 6d. per annum

The FURNISHING WORLD

The leading newspaper of the Furniture and Furnishing Trades.

(Weekly) 40s. per annum

WOODWORKING INDUSTRY

The practical Journal of all the Timber-using Trades

(Monthly) 20s. per annum

PERSONNEL MANAGEMENT, WELFARE & INDUSTRIAL EQUIPMENT

The Journal devoted to increasing production through better management of men and machines.

(Monthly) 20s. per annum

**Reference Works**

The Library of Business Practice.
5 volumes £3. 3s. 0d.

The New Marketing Survey of the United Kingdom
—the most comprehensive and up-to-date marketing reference work published.
£5. 5s. 0d.

The Overseas Marketing Survey
—vital marketing facts about 44 countries, essential for all who export or wish to export their products.
£3. 3s. 0d.

The Directory of Directories, Annuals and Reference Books
—immediate information on where to find the facts you want.
£1. 10s. 0d.

Advertiser's Annual
—250,000 facts about British advertisers and publications.
£2. 10s. 0d.

The Papermakers' and Merchants' Directory of all Nations
—the international link between all the world's great paper making trades.
£1. 10s. 0d.

The Practical Business Series of Booklets
—10 titles, each dealing with fundamentals and proved formulae: personal efficiency: sales letters: business finance: cost accounting: increasing sales: mail order: advertising and direct mail: welfare: systematisation: personality:
1s. each, 10s. the set

*at the*

# BUSINESS
## *Book Centre*

180 FLEET STREET, LONDON, E.C.4

*Telephone: CHANCERY 8844 (15 lines)*

# *Industrial Equipment*

THAT RAISES PRODUCTION EFFICIENCY

**Readers who wish to have more particulars of any of the products referred to in this section are asked to write to the Editor, quoting the reference number which appears at the end of the paragraph.**
**We are always glad to receive details of new products suitable for description here.**

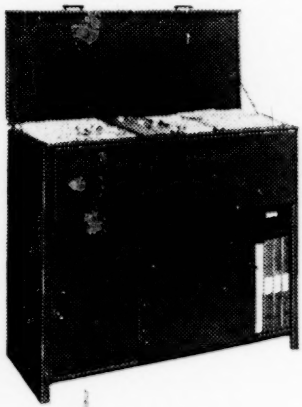
## ADMINISTRATION

### *No-Drawer Filing Cabinet*

HERE is a new solution to the problem of filing, especially in the executive's office. When the lid of the Readyrecord is opened all the files it contains are fully exposed and suspended at the most convenient level. The unit will accommodate all makes of files and takes quarto and foolscap, or both. An additional advantage is the absence of drawers which, when in use, double the floor space required.

The bottom section will house box files and books as well as filing and index card trays. If desired, a complete departmental file recording system can be built up in one unit as the total storage capacity of the standard model is two-thirds greater than that of the usual drawer type cabinet.

The *de luxe* model, which is slightly smaller, has a graph or chart holder inside the lid and is fitted with a central lock. Both types are built of heavy gauge steel. **(PM/385.)**



### *Telephone Aid*

THE Fonadek comprises a small cabinet containing an electronic amplifier, which picks up and amplifies telephone conversation when the G.P.O. receiver is placed in position. Thus, both hands of the speaker are left free, any number of people can speak and listen to one call, and wasted minutes can be saved when waiting for a trunk connection to be made. (The call is put in, and the receiver left on the apparatus until the number replies.)

Battery operated, the Fonadek is not an attachment and therefore does not interfere with the telephone instrument.

The battery should be replaced every six months. Outward speech is transmitted through a speaker opening leading into the receiver mouthpiece; inward speech is amplified through "loudspeaker" vents in the sides of the cabinet. Models are available to suit all standard G.P.O. telephones.

**(PM/386.)**

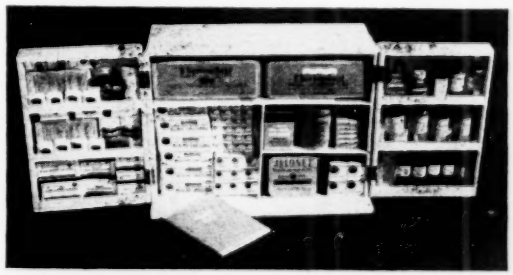
## FIRST-AID

### *Light Alloy Crutch*

A LIGHT alloy crutch of new design has recently been developed. It is made in duralumin, and it is adjustable to suit the patient's height.

One great advantage of this type of crutch is, of course, its lightness; duralumin weighs only a third as much as steel. **(PM/384.)**

**A very practical first-aid case, with dressing materials and lotions on shelves inside both doors. Two trays, stored in back of case, contain selection of equipment in portable form (PM/387.)**



## HANDLING

### *Hoist for Light Loads*

ORIGINALLY designed for feeding work into machine tools, the Handy-Lift is intended to solve the problem of raising light loads without resorting to chain blocks. It has many applications, one being the removal and fitting of car and lorry engines.

Safe working load is 2 cwt., height of lift 5 ft. 6 in., total weight 5 lb., breaking strain of hoist chain 2,000 lb., giving a safety factor of 9:1, and mechanical advantage 14:1. The whole of the lifting chain is contained in the body of the hoist when fully raised. Since the photograph reproduced here was taken, the pawl has been dispensed with and a revised type of self-sustaining friction mechanism is now fitted as standard. Price is to be in the neighbourhood of £4 10s. to the user. Deliveries will start in about seven weeks. **(PM/388.)**

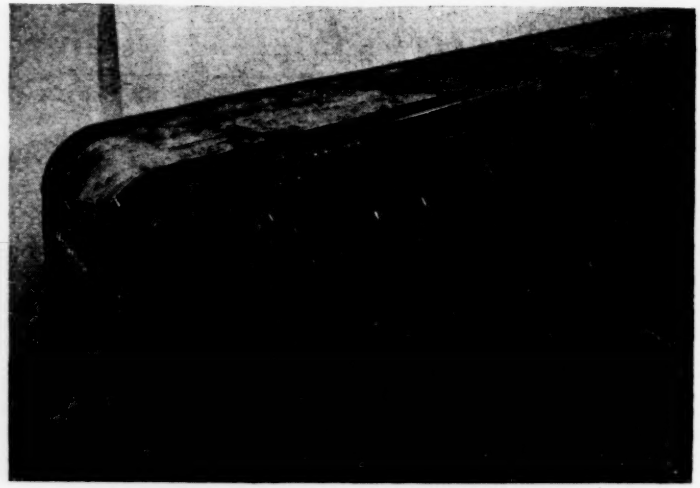
## *Adaptable Conveyor*

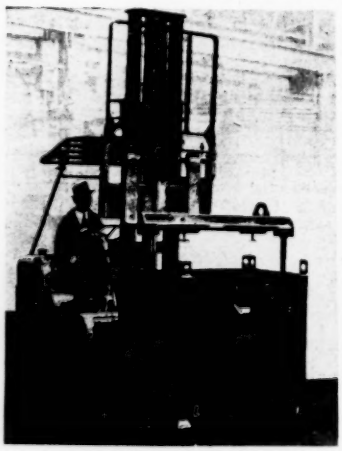
THE MotaVeyor has established itself in all branches of industry. At the B.I.F. there was shown the latest addition to the range, the Medium type, which will increase the extent to which the design can be applied. In this new model as in its predecessors, sectional construction permits lengthening or shortening as changes in shop layout demand.

Four types of MotaVeyor have now been developed round one basic design. A plain sheet steel top or gridded steel top for lighter loads are standard; a roller top can be supplied for heavier loads, or a trough roller top for loose materials. Different belts can be fitted according to the commodity to be handled, and idler rollers carry the return side of the belt. Rollers are fitted with Oilite bearings. Belt widths of 12 in., 18 in., 24 in. and 30 in. can be provided in the standard range.

**(PM/373.)**


**Table Tennis Tables**
complete with trestles, etc.—unlimited supply—**£10 0s. 0d.**
**RELIANCE WORKS**
Viaduct Road, Broadheath, Altrincham
*Telephone: Altrincham 2337*



**A new handling item shown at the B.I.F.—the Flowskip container for use with fork truck or crane. Can be unloaded at any required height, and fitted with castor wheels to increase its mobility. (PM/380.)**

**SAFETY**

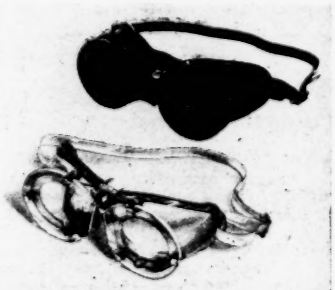
## *Ventilated Goggles*

CLAIMED to solve the "misting up" problem, these ventilated goggles are designed to give new comfort to workers exposed to chemical or liquid sprays, irritant dusts, flying particles, sparks and injurious light rays. The system of ventilation allows air to circulate freely between the eye-cup and the lens.

Between the lenses and the periphery of the eye-cup there is a narrow channel. This channel (less than 1/10 in.) is wide enough to permit—in fact, head movements induce—air to pass freely across the eye, and yet it is narrow enough to prevent the entry of particles and moisture. The lenses extend beyond the periphery of the eye-cup and the forward edge of the latter is turned inwards to form a flange—features which give extra protection.

The goggles are made of splinterproof, acid-resistant plastic materials which are also impervious to moisture. They are held in place by flexible plastic headstraps with non-slip adjustable buckles. The lenses—clear, coloured or Triplex—are optically perfect and are fastened by chromium-plated clips which permit easy replacement. Total weight is 2¼ oz. There are special models for spectacle wearers and welders, the latter to B.S.S.1542/1949.

**(PM/389.)**



## *Paint Marker*

THE Mark-Rite is a lightweight and compact device for painting guide lines of all types. The 3¼ in. o.d. tubing paint container is mounted on 6 in. cast aluminium, rubber-tyred

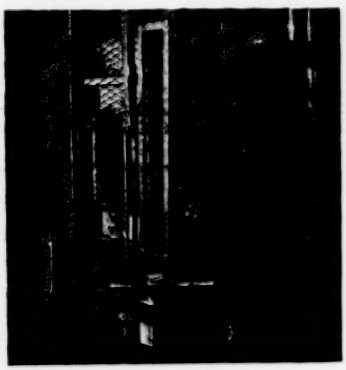
wheels. Paint is fed into the container through the filler cap near the handle and delivered, by gravity feed, through a cast aluminium nozzle with a self cleaning removable needle. Spreader brush assembly is interchangeable, enabling 2 in., 3 in., 4 in. or 5 in. brushes to be used as required. There is also a special model for making 6 in. lines for airports, etc. Either traffic paint or lacquer can be used.

Weight of the Mark-Rite is 15 lb., length 56 in., wheel diameter 6 in., paint capacity 1½ gallons, paint consumption 500-800 linear feet per gallon (according to surface conditions).

**(PM/390.)**

## *Press Control Valve*

PICTURED below is an Ellison valve controlling a hydraulic press. Interlocking arrangements prevent operation of the valve while the safety guard is raised. Principle of operation is that



pressure handle (see photograph) cannot be operated while exhaust valve is open, and *vice versa*.

The valve is made in 1, 2, 3 and 4-way patterns. In the multi-way types the pressure and exhaust controls can be interlocked one with the other. Various size pipe flanges are fitted as required. Valves can be supplied to operate up to 1 ton per sq. in. pressure.

**(PM/392.)**

## *Lightweight Jigs*

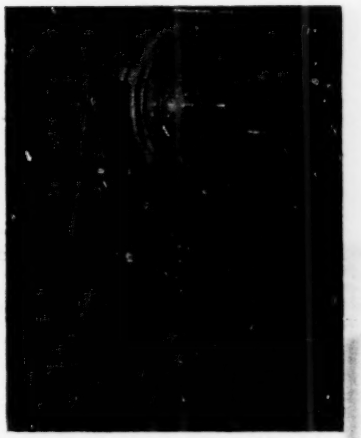
ILLUSTRATED below is a jig which is half the weight of aluminium yet is strong, hard wearing and will not warp. It is made of Tufnol, a non-metallic material with great possibilities in factory safety. Tufnol is produced in sheets, tubes, rods, angles, bars and channels from which components or articles can be machined and fabricated. A jig such as the one illustrated is easily handled by youths and women operators.

In one factory large jigs made of Tufnol are used for drilling and machining components. One of these jigs weighs about 20 lb., whereas a similar one in steel would weigh more than 1 cwt. In another instance, Tufnol is used for covering bench tops. Here the type of work done on the benches, which were previously wooden, had splintered the tops. Tufnol does not splinter. **(PM/391.)**

## *Air Closure Guards*

THE interlocking guard and the power press operated by air closure is a system recently developed. By this means fatigue is reduced and production increased, with enhanced protection for the operator.

Operation of a pneumatic foot pedal unit, which can be positioned as desired, first closes the guard and then trips the press. The unit eliminates the closing of the guard by hand, ensures easy foot operation, and increases the efficiency of the interlocking guard.



A pressure reducing valve regulates the air supply to the operating cylinder. When the interlocking guard is swung clear and a fixed type tool guard is used, the scotches can be released and the gate-operating cylinder locked in its open position. The unit may be fitted to existing interlocking guards.

**(PM/393.)**


**FIRST AID HANDBOOKS**

ANATOMICAL DIAGRAMS AND CHARTS FOR LECTURES
HUMAN SKELETONS
for sale

**H. K. LEWIS & Co. Ltd.**
136 GOWER STREET, W.C.1
*Telephone: EUSton 4282*

*Special Lines in*
**CAFE, CLUB & HOTEL FURNITURE**
200 39" x 22" S/H Polished Mahogany Tables £3 7s. 6d. each.
4' including Flap x 1' 8" x 2' 4" Typists Desks £9 3s. 2d. each.
4' x 2' 3" x 2' 6" Secretary's Desk £13 11s. 7d.
Second-hand 45" x 24" Glass Top Tables £7 each
30" High Stools 15s 4d. each
Upholstered Seat Dining Chairs £1 18s. 8d. each.
*WRITE FOR ILLUSTRATED LISTS*

*Contracts Dept.*
263/275 Holloway Road, N.7
Tel.: North 2747 (13 Lines)
Est. over 100 years

**Jelks** OF Holloway

# *Looking Ahead*

## WELFARE AND PRODUCTION EQUIPMENT TO BE INSTALLED

**Aberdeen.**—Installation of new sulphuric acid manufacturing plant is proposed at the Sandilands Chemical Works. The cost of the plant is estimated at £410,000.

**Bath.**—Rebuilding of the war-damaged Broad Quay Maltings is proposed by Hugh Baird and Sons Ltd., Lower Ashley Road, to plans prepared by Alfred J. Taylor and Partners, 4-5 Bridge Street, Bath.

**Bingley (Yorks).**—Plans for a textile factory at Crossflats for Waddington and Moore Ltd., Bradford, are recommended for U.D.C. approval.

**Blyth.**—The T.C. is considering a proposal to provide a canteen for men working in the direct labour department.

**Birmingham.**—Corporation has approved an expenditure of £103,000 on drainage and an access road for the Chester Road Light Industrial Centre. Hobbis and Hobbis, 36 Waterloo Street, Birmingham, are preparing plans for a new church training college at Saltley.

**Bucks.**—Permission has been granted to Molins Machine Co. Ltd., to erect a new block of buildings, approx. 73,000 sq. ft., at the factory premises they have acquired at Hall Lane, Saunderton.

**Burnley.**—Plans approved: new garage and canteen at the Hortus Works, Junction Street, for the Hortus Printing Works Ltd.

**Burton-on-Trent.**—A factory is proposed for Hodgson and Hodgson Ltd., Wesley Grove, Carrington, Nottingham.

**Bury.**—Plans for a new cleaning factory in Bolton Street and Millett Street proposed by Allen's Dyer's (Bury) Ltd., have been approved by the T.C.

**Carlisle.**—Tenders will be obtained soon for a £30,000 scheme for new workshops and hostel accommodation for the blind at Petteril Bank, Carlisle. The architect is Ralph Wright, 13 Castle Street, Carlisle.

**Cheltenham.**—Plans submitted: New factory, Turks Gardens, Tewkesbury Road, for Geo. Munro Ltd. Extensions to Thirstaine Court, for Gloucestershire C.C.

---

**Crawley, Sussex.—A new factory on the New Town industrial estate is proposed by Hubuers Ltd., 3 Ray Street, London, E.C.1.**

**Dagenham.**—Town Planning consent received as follows: A factory on the Hainault Industrial Estate, for Warton Flock Co. (Stratford) Ltd., 48 Warton Road, E.15; factory extension at Chequers Lane, for Pritchett and Gold and E.P.S. Co. Ltd., 50 Grosvenor Gardens, S.W.1; factory on the Hainault Estate, for Bakers Joinery Ltd., 51 Middlesex Wharf, E.5.

**Dorking (Surrey).**—Plans for a factory in Vincents Lane, for E. J. Baker and Co. (Dorking) Ltd., High Street, Dorking, have been approved by the U.D.C.

**Dundee.**—A large factory will be established by the National Cash Register Co., Dayton, Ohio, U.S.A. A new factory and offices are proposed by the British Oxygen Co. Ltd., Bridgewater House, Cleveland Row, London, S.W.1.

**Durham.**—Erection of staff canteen at Durham City, for C.C., £4,532. Rebuilding is proposed of Cassop Colliery Victory Workmen's Club, to cost £8,800, to plans by Matkin and Hawkins, Barclay's Bank Chambers, Fawcett Street, Sunderland, and a licence is sought.

**East Kilbride, Scotland.**—Lord Bilsland, Chairman of Scottish Industrial Estates Ltd., revealed recently that an American factory for the production of agricultural machinery is to be established at the new town of East Kilbride. The factory will be a subsidiary of John Deere and Co., of Illinois, U.S.A., said to be the second largest producers of agricultural machinery in the world. Negotiations are being completed for the formation of a British company. It is reported that Rolls-Royce Ltd., Derby and Crewe, propose a large new works at East Kilbride Industrial Estate. Architects are W. G. Phillips and Partners, 14 Conduit Street, London, W.1. Rolls-Royce Ltd., also have plans for extensions to their factory at Blantyre. Architects: Wilson, Hamilton and Wilson, 153 Oxford Street, Glasgow, S.1.

**Eston (Yorks).**—The plan for a hostel for the employees of Smith's Dock Co. Ltd., is still in preliminary stages. The architects are Kitching and Co., 21 Albert Road, Middlesbrough.

**Finsbury.**—The architects for a factory proposed at 100 Goswell Road and 1-5 Gee Street, E.C.1, are Frank Durrant, Westmore and Reeves, 121 Cheapside, London, E.C.2.

**Glasgow.**—Plans will be prepared by George A. Boswell and Partners, 256 West George Street, Blythswood Square, Glasgow, C.2, for a canteen proposed at Queenslie. The architects for new buildings proposed by the Scottish National Glass and Glazing Co. Ltd., at 14-20 Dobbies Loan, Cowcaddens, are Weddle and Thomson, 216 Bath Street, Glasgow, C.2.

---

**Gosport, Hants.—A new factory is planned for Venus Pencil Co. Ltd., 169 Lower Clapton Road, London, E.5.**

**Hull.**—The T.C. is to inform Wm. McLauchlan (Hull) Ltd., that it is prepared to reserve site for them at Scarborough Street industrial site. Building development is proposed by the following named concerns: T. Middleton and Son Ltd., Robinson and Speight Ltd., Hull. The T.C. has approved scheme by the City Architect for the proposed Guildhall Staff canteen on site at corner of Hanover Square. Tenders will be invited. T.C. has offered a site at Reform Street Industrial Estate to Burstall and Dodds Ltd., for development. F. and T. Ross Ltd., propose to rebuild war-destroyed premises in Myton Street. The T.C. is to offer a site of 8 acres at Sutton Road industrial site to Northern Dairies Ltd., for development. T.C. has agreed to the use of 12 acres at Sutton Road by Priestman Bros. Ltd., for development. T.C. Planning Committee approves plans for Stage 2 of the large factory scheme for Smith and Nephew Associated Companies Ltd. Messrs. L. M. Ewbank have asked the T.C. to supply details of sites on Reform Street Estate for a furniture factory.

**London, S.W.**—J. F. Farquharson and Partners, 34 Queen Anne Street, London W.1, are the architects for a canteen proposed at Merton Abbey, to cost £12,000.

**London.**—Canteen at Nine Elms Lane, for North Thames Gas Board. Plans by Oscar Faber and Partners, 4 Verulam Buildings, Gray's Inn, W.C.1.

**London.**—A contract has been awarded for demolition and complete rebuilding of factory at Fountayne Road, Stamford Hill, N.15, for Mills Equipment Co. Ltd., 56 Victoria Street, S.W.1. The architects are Donald Hamilton, Wakeford and Partners, 7 Connaught Place, W.2, and the contract figure is about £100,000.

**Loughborough.**—Herbert Morris Ltd., North Works, Meadow Lane, Loughborough, Leics., will have large extensions carried out at their factory premises. Work is estimated to cost £63,000.

**Macclesfield.**—A new industrial estate at Hurdsfield is proposed by the T.C.

**Manchester.**—A large new factory on the Wythenshawe Estate, to plans by their architectural staff, is proposed by Dunlops Ltd.

**Merthyr Tydfil.**—A £200,000 extension is proposed by Hoover Ltd., Western Avenue, Perivale.

**Nuneaton.**—Messrs. Clifford, Tee and Gale, Moorgate Hall, 153 Moorgate, E.C.2, are the architects for new research laboratories proposed at Lindley, Nuneaton, by Motor Industry Research Association. The cost is estimated at between £100,000 and £150,000. The architect for a new factory proposed by the Atlas Hosiery Co. Ltd., is M. A. Shute, Stratford Street, Nuneaton.

**Sheffield.**—The T.C. is to lease land at Carlisle Street, Dorking Street, and Sorby Street to Alfred Jackson (Sheffield) Ltd., as a site for a tools factory, and will lease land at Carlisle Street and Dorking Street to Morgan Fairest Ltd., for an engineering works and offices. Sites in Carlisle Street, Dorking Street and Kirk Street, will be leased by the T.C. to Morgan Fairest Ltd., for engineering shop, warehouse and offices, and to Alfred Jackson (Sheffield) Ltd., for a new tools factory.

**South Shields.**—The T.C. has agreed to erect factories for three firms whose existing premises are to be pulled down under a development scheme. The cost will be £70,000.

**Surbiton.**—Plans submitted: Factory, in Roebuck Lane, for Boniwell and Co., estate agents, 1 St. Mark's Hill, Surbiton. Additions to factory, Davis Road, for Siebe Gorman and Co. Ltd. T.C. approval recommended for a factory at corner of Roebuck Road and Cox Lane, for Boniwell and Co., and for a factory at Roebuck Road, for Gattey (Kingston) Ltd., Derby Road, Surbiton.

**Wakefield.**—The T.C. is to sell 7 acres of land off Norbury Road, to Richard Sutcliffe Ltd., and 5¼ acres to Subaseal Ltd. A new factory and offices are proposed by Subaseal Ltd., 4 Wormald Row, Leeds 2.

**Wembley.**—British Oxygen Co. Ltd., Carlton Avenue East, Wembley, propose extensions to their factory, at £45,000 and will have revised plans prepared by their staff architect.

**Wrexham.**—The Board of Trade has now approved the project to build a £2,000,000 factory on a 75 acre site at the Trading Estate at Wrexham, N. Wales. The promoters are British Celanese Ltd., and the firm's present factory on the estate will become part of the new development. Site clearance is complete and plans have been submitted to the local authority. An early start is expected. About 4,000 will be employed at the new factory.

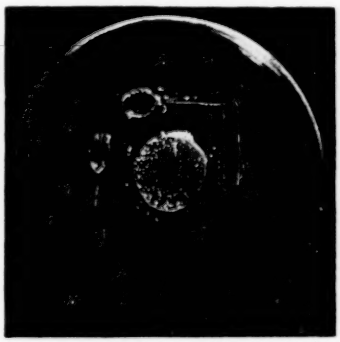
---

We understand that the new factory which Addressograph-Multigraph Ltd. propose to build at Hemel Hempstead is to cost "several hundred thousand pounds" and not £100,000, as stated in our last issue.

# *Cleaner Washing-up Test*

ALL cutlery, crockery and glassware in the chief restaurants of the South Bank exhibition is being sterilised by the Deosan process, which was explained to the Press at a recent demonstration of bacteriological tests.

Most of the crockery is machine washed in water containing a detergent-sterilant powder. Very hot water sprays are used for final sterilisation, and drying is effected on racks, thus eliminating the risk of infection through soiled cloths.



**Bacteria visible in the germ-growing jelly**

Cutlery, glassware and other items which are unsuitable for the machines are being washed in sinks. There are separate places for pots and pans, vegetables and utensils. Scrubbing brushes, dishcloths and wiping cloths are also continually sanitised. Beer and soft drinks glasses are, where possible, being treated in a machine which not only washes them but wipes them as well. All the cleaning solutions are also sterilisers. Where ordinary bar service is in operation, rinse waters are being treated with D.Q.I. steriliser.

Regular bacteriological tests are being made throughout the run of the exhibition. Similar tests of crockery, utensils and rinse waters can be made in factory and works canteen. For instance, hand infection is traced by taking prints on germ-growing jelly, which is maintained at body temperature for 48 hrs., by which time the bacteria have multiplied many million times and have become visible.

Mr. A. H. Walters, chief bacteriologist of the Milton-Deosan Research Laboratory, said that invisible infection must be made visible for the "backroom boys and girls" in every works canteen, "who should be keenly aware of the important part they are playing in the health of the community."

# *The Fellow with a 'Cello*

WELFARE officers will be doubly interested in Harry B. Carter, alias "Harry the Carter" or "The Fellow with a 'Cello." For not only does Mr. Carter offer entertainment which is eminently suitable for the factory stage, but also he was for a time himself a welfare officer. He spent eight years in that capacity with Clarks of Street, the shoe manufacturers. Further, he was for five years of the last war in charge of troop entertainment in Hertfordshire, under the Army County Welfare Committee, and put on more than a thousand shows.

While with Clarks, Mr. Carter was responsible for the engagement, health, welfare and recreation of the employees. In fact, he provided some of the recreation himself, playing in a works trio with—of all people—Rutland Boughton, composer of *The Immortal Hour*. He ran the dramatic society, and produced its plays.

His art is probably unique. He supplies a complete entertainment—singing, light comedy and musical accompaniment, with voice and 'cello blending in harmony. From his home in the Surrey countryside he travels all over the country by car to present his entertainments, which may be a solo turn or a complete show with half-a-dozen artists.

# *Summary of Official Publications*

## YOUR "P.M." GUIDE TO ACTS, STATUTORY ORDERS AND AWARDS

### STATUTORY INSTRUMENTS

**No. 743. The National Insurance (Industrial Injuries) (Claims and Payments) Amendment Regulations, 1951.** Dated April 27, 1951, made by the Minister of National Insurance under Section 27 of the National Insurance (Industrial Injuries) Act, 1946 (a). *H.M.S.O.* 2*d*. (Amend the National Insurance (Industrial Injuries) (Claims and Payments) Regulations, 1948, to enable an increase of disablement pension in respect of constant attendance to be paid for periods other than one week. Operative as from May 2, 1951.)

**No. 747. The Wages Regulation (Unlicensed Place of Refreshment) (Holidays) Order, 1951.** Dated April 27, 1951, made by the Minister of Labour and National Service under Section 8 of the Catering Wages Act, 1943 (a). *H.M.S.O.* 4*d*. (Sets out new provision for annual holidays and holiday remuneration payable. Supersedes the schedule to Order U.P.R. (4). Operative as from May 21, 1951.)

**No. 772. The Fur Wages Council (Great Britain) Wages Regulation (Holidays) Order, 1951.** Dated May 1, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (b). *H.M.S.O.* 6*d*. (Revokes Order Z. (47), and fixes annual and other customary holidays, and holiday remuneration payable. Operative as from May 21, 1951.)

**No. 775 (S. 46). The Fire Services (Conditions of Service) (Scotland) (Amendment) Regulations, 1951.** Dated April 30, 1951, made by the Principal Secretary of State for Scotland, under Sub-section (1) of Section 17 of the Fire Services Act, 1947 (a). *H.M.S.O.* 2*d*. (Provide for pay increases of section leaders (ranging from 180s. 6d. per week to 195s. 6d.); leading firemen (ranging from 157s. 6d. per week to 175s. 6d.); and firemen (ranging from 141s. 6d. per week to 159s. 6d.). Operative as from May 4, 1951.)

**No. 777. The Tin Box Wages Council (Great Britain) Wages Regulation (Holidays) Order, 1951.** Dated May 2, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (b). *H.M.S.O.* 6*d*. (Revokes Order X (30) and fixes annual and other customary holidays, and holiday remuneration payable. Operative as from May 21, 1951.)

**No. 778. The Boot and Shoe Repairing Wages Council (Great Britain) Wages Regulation (Holidays) Order, 1951.** Dated May 2, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (c). *H.M.S.O.* 4*d*. (Revokes Order D. (85) and fixes annual holidays and holiday remuneration payable. Operative as from May 21, 1951.)

**No. 784. The Hair, Bass and Fibre Wages Council (Great Britain) Wages Regulation (Holidays) Order, 1951.** Dated May 3, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (b). *H.M.S.O.* 4*d*. (Revokes Order H.B. (31) and sets out annual and other customary holidays, and holiday remuneration payable. Operative as from May 23, 1951.)

**No. 820. The Dressmaking and Women's Light Clothing Wages Council (England and Wales) Wages Regulation Amendment Order, 1951.** Dated May 8, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945(b). *H.M.S.O.* 2*d*. (Amends Order D.W.(51) by increasing statutory minimum remuneration payable. Operative as from May 30, 1951.)

**No. 821. The Corset Wages Council Wages Regulation (Amendment) Order, 1951.** Dated May 8, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945(b). *H.M.S.O.* 2*d*. (Amends Order K. (30) by increasing statutory minimum remuneration payable. Operative as from May 28, 1951.)

**No. 833. The National Insurance (Industrial Injuries) (Benefit) Amendment Regulations, 1951.** Dated May 10, 1951, made by the Industrial Injuries Joint Authority and the Minister of National Insurance under Section 34(3) and 32(1) of the National Insurance (Industrial Injuries) Act, 1946(a). *H.M.S.O.* 2*d*. (Amend the National Insurance (Industrial Injuries) (Benefit) Regulations, 1948, by creating an exception to the general rule that periods of hospital treatment as in-patient shall be treated as continuous in respect of certain beneficiaries claiming constant attendance allowance while absent from hospital. Also provide that a person shall not be disqualified from receiving disablement benefit during any period of absence from Great Britain. Operative as from May 15, 1951.)

**No. 834. The Cutlery Wages Council (Great Britain) Wages Regulation Order, 1951.** Dated May 9, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945(c). *H.M.S.O.* 6*d*. (Revokes Order C.T.(47) and sets out new statutory minimum remuneration payable. Also amends provision regarding holidays and holiday remuneration by excluding certain outworkers and by increasing maximum amount of holiday remuneration or accrued holiday remuneration payable. Operative as from May 30, 1951.)

**No. 848. The Coal Mines (Officials and Inspections) General Regulations, 1951.** Dated May 11, 1951, made by the Minister of Fuel and Power under Section 86 of the Coal Mines Act, 1911(a) as amended by Section 9 of the Coal Industry Act, 1949(b). *H.M.S.O.* 6*d*. (These Regulations codify with certain amendments the law relating to the qualification, appointment and duties of underground officials below manager and under-manager in mines to which the 1911 Act applies. Also includes revised requirements for regular inspection of places outside the deputy's districts and for examination of safety lamps before workmen travel to their places of work. Operative as from September 3, 1951.)

**No. 875. The Aerated Waters Wages Council (Scotland) Wages Regulation Order, 1951.** Dated May 16, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945(d). *H.M.S.O.* 2*d*. (Revokes Orders A.S.(28) and A.S.(32), and sets out statutory minimum remuneration payable. Operative as from June 1, 1951.)

**No. 881. The Linen and Cotton Handkerchief and Household Goods and Linen Piece Goods Wages Council (Great Britain) Wages Regulation Order, 1951.** Dated May 17, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (c). *H.M.S.O.* 4*d*. (Revokes Order H.L. (36) and sets out new statutory minimum remuneration payable. Operative as from June 1, 1951.)

**No. 884. The Lace Finishing Wages Council (Great Britain) Wages Regulation Order, 1951.** Dated May 18, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945(b). *H.M.S.O.* 6*d*. (Revokes Order L.(21) and sets out new

statutory minimum remuneration payable. Operative as from June 4, 1951.)

**No. 918. The National Insurance (Industrial Injuries) (Prescribed Diseases) Amendment (No. 3) Regulations, 1951.** Dated May 24, 1951, made by the Minister of National Insurance under Sections 55, 56, 57 and 86 of the National Insurance (Industrial Injuries) Act, 1946(a). *H.M.S.O.* 2*d*. (Revise the 1948 Regulations by providing that people certified under Workmen's Compensation Acts as suffering form silicosis or pneumoconiosis, not accompanied by tuberculosis, may obtain benefit under the National Insurance (Industrial Injuries) Act, 1946, in respect of any worsening of the disease, if they have worked in certain mining occupations after examination by a pneumoconiosis medical board. Operative as from June 4, 1951.)

**No. 926. The Factories (Miscellaneous Welfare Orders, etc., Amendments) Order, 1951.** Dated May 24, 1951, made by the Minister of Labour and National Service under Section 159 of the Factories Act, 1937(a) and the Transfer of Functions (Factories, etc., Acts) Order, 1946(b). *H.M.S.O.* 2*d*. (Revokes certain welfare provisions, (including provision of seating facilities) contained in the Chemical Works Regulations, 1922, and in a number of Welfare Orders made under Section 7 of the Police, Factories, etc., (Miscellaneous Provisions) Act, 1916, which are now contained in Part III of the Factories Act, 1937, as amended by the 1948 Act. Operative as from May 24, 1951.)

**No. 948. The Retail Bespoke Tailoring Wages Council (Scotland) Wages Regulation (Holidays) Order, 1951.** Dated May 28, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (b). *H.M.S.O.* 4*d*. (Revokes Order R.B.S. (27) and sets out annual and other customary holidays, and holiday remuneration payable. Operative as from June 13, 1951.)

**No. 949. The Retail Bespoke Tailoring Wages Council (Scotland) Wages Regulation (Amendment) Order, 1951.** Dated May 28, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945(b). *H.M.S.O.* 2*d*. (Amends Order R.B.S. (31) by increasing statutory minimum remuneration payable. Operative as from June 13, 1951.)

**No. 955. The Retail Food Trades Wages Council (Scotland) Wages Regulation (Amendment) Order, 1951.** Dated May 29, 1951, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (b). *H.M.S.O.* 4*d*. (Amends Order R.F.C.S.(6) and substitutes new statutory minimum remuneration payable. Operative as from June 18, 1951.)

**No. 972. The National Insurance and Industrial Injuries (Reciprocal Multilateral Agreement) (France and the Netherlands) Order, 1951.** Dated May 31, made by the King's Most Excellent Majesty in Council. *H.M.S.O.* 4*d*. (Gives effect in England, Scotland and Wales to reciprocal arrangements agreed with France and the Netherlands in relation to the provisions of the National Insurance Acts, 1946 to 1949; and for modification in their application to nationals of the parties to the Brussels Treaty Convention. Operative as from June 1, 1951.)

## GENERAL

**Catering Wages Commission.** Seventh Annual Report, 1949-1950. Issued by the Ministry of Labour and National Service, May, 1951. *H.M.S.O.* 4*d*.

**Unofficial Stoppages in the London Docks.** Report of a Committee of Inquiry. Issued by the Ministry of Labour and National Service. Cmd. 8236. *H.M.S.O.* 1*s*. 3*d*. (See also our June issue, p. 557.)

**Report of a Court of Inquiry into the Causes and Circumstances of a Dispute Between the Electrical Trades Union and the London Electricity Board.** Issued by the Ministry of Labour and National Service, May 1951. Cmd. 8232. *H.M.S.O.* 6*d*. (See also our June issue, p. 557.)

**Civil Defence.** Manual of Basic Training. Vol. II. Pamphlet No. 2. Basic Fire Fighting. Amendment No. 1A. Issued by the Home Office, May, 1951. *H.M.S.O.* 2*d*.

**Civil Defence.** Training Memorandum No. 5. Further Training of Volunteers and Notes for Heads of Sections, Leaders and Instructors. Issued by the Home Office, May, 1951. *H.M.S.O.* 9*d*.

## INDUSTRIAL COURT AWARDS

**No. 2313. Government Industrial Establishments.** Reference: That members of crews retained outside normal working hours in duty tugs and other yard craft which are inactive shall be paid plain time rates whilst not actively employed and at active rates for periods of active work. Award: The Court found against the claim as stated, but awarded that members retained on board be paid at plain time rates while not actively employed, and at active rates for periods of active work provided that a minimum of one hour's pay at overtime rates be paid on each occasion they are required to turn out for active work. (April 18, 1951.)

**No. 2314. Government Industrial Establishments.** Reference: For specific rates of pay for chargemen, skilled labourers and ordinary labourers employed in Admiralty establishments. Award: The Court awarded as follows: That the scale of charge pay of chargemen of skilled labourers on the permanent list to be increased to 16s. by 2s. annually to 30s.; charge pay to chargemen of ordinary labourers on the permanent list to be increased to 16s. by 2s. annually to 26s.; charge pay of chargemen of skilled labourers not on the permanent list to be increased to 16s. by 2s. annually to 30s.; charge pay of chargemen of ordinary labourers not on the permanent list to be increased to 14s. (April 24, 1951.)

**No. 2315. Saw Mill Industry.** Reference: That rates of pay of qualified adult woodcutting machinists and sawyers be increased by 6d. per hour. Award: The Court awarded that district minimum rates be increased by 3d. per hour. (April 26, 1951.)

**No. 2316. Government Industrial Establishments.** Reference: That packing-case makers employed by the War Office and Air Ministry who receive M plus 12s. be paid M plus 15s. Award: The Court found the claim not established. (April 30, 1951.)

**No. 2317. Railway Shopmen.** Reference: That fitters and boilersmiths engaged on examination of engines be paid a differential of 3s. per week over and above the fitter's or boilersmith's rate, in addition to the Running Shed differential. Award: The Court awarded a differential of 2s. 6d. per week (April 30, 1951.)

**No. 2318. Railway Shopmen.** Reference: That certain differentials be paid to chargehands employed on lieu rates retrospectively from February, 1948. Award: The Court found in favour of the workmen's claim. (April 30, 1951.)

**No. 2319. Field Aircraft Services Limited.** Reference: That terms and conditions of employment ought to comply with requirements of section 15(1) of the Civil Aviation Act, 1949. Award: The Court found that the company was not now an independent undertaking and the Act did not therefore apply. They revoked their Award No. 2288 of December 29, 1950. (May 4, 1951.)

**No. 2320. Meat Trade.** Reference: Claim for 10 per cent. increase on all head and piece rates for workers in slaughterhouses. Award: The Court found the claim not established. (May 4, 1951.)

**No. 2321. Public Health Services.** Reference: Dispute over certain matters arising out of Award No. 2285. Award: The Court awarded as follows: (a) Deputy Medical Officers of Health shall receive 66⅔ per cent. of the minimum scale for Medical Officers of Health: (b) County District Medical Officers of Health shall receive commencing salary of £1,250 rising by annual increments of £50 to £1,650, with additions according to size of population: (c) Assistant Medical Officers or Divisional or Area Medical Officers under a County Council, acting as District Medical Officers of Health for a definite proportion of their time, shall receive the appropriate proportion of their salary (calculated in accordance with the Spens Formula in respect

of consultants), plus the appropriate proportion of salary fixed for County District Medical Officers of Health, plus a similar proportion of £100; (d) these salary scales shall apply from October 1, 1950, as for Award No. 2285. (May 7, 1951.)

## NATIONAL ARBITRATION TRIBUNAL AWARDS

**No. 1641. Rates of Wages and Conditions of Employment of Certain Workers Employed by a Firm of Retail Grocers and Provision Merchants.** Claim: For establishment of specified terms and conditions of employment. Award: Claim not established. (April 4, 1951.)

**No. 1642. Rates of Wages of Male and Female Staff Employed in the Banking Department of the Scottish Co-operative Wholesale Society Limited.** Claim: For specified rates and conditions for male and female staff. Award: The Tribunal awarded salary scales as follows: Males: £120 p.a. at 15 years rising by annual increments to £400 at 30 years. Females: £120 p.a. at 15 years rising to £300 at 30 years. So far as females are concerned the scale is subject to an efficiency bar at the age of 26. (April 5, 1951.)

**No. 1643. Employment by Southport Corporation of Workers other than Painters on Certain Painting Work on the Pier.** Claim: Dispute concerning the employment of workers other than painters on painting the pier. Award: The Tribunal found in favour of the claim that the work concerned should be done by painters. (April 5, 1951.)

**No. 1644. Shift Allowances in Respect of Certain Male Attendants Employed at the Quinton Hall Homes, Birmingham.** Claim: For payment of additional allowances recommended by the Whitley Councils for the Health Services for all hours worked when male attendants are performing alternating and rotary shift duties. Award: The Tribunal found that the workers concerned should be paid the additional rate when performing alternating and rotary shift duties; but they were not satisfied that the duties concerned constituted such shifts and suggested that the Ancillary Staffs Council be asked to define what duties constituted alternating and rotary shifts. (April 10,1951.)

**No. 1645. Rates of Wages of Workers Employed by Wholesale Newsagents in the London Area.** Claim: For payment of same rates of wages as paid to similar workers employed by newspaper proprietors. Award: In favour of workmen. (April 10, 1951.)

**No. 1646. Shift Payments to Locomotive Men Employed by the Workington Harbour and Dock Board.** Claim: For payment of a shift differential based on time-and-a-half to locomotive men who work the second shift. Award: Claim not established. (April 10, 1951.)

**No. 1647. Rate of Pay and Conditions of Service of Laboratory Assistants Employed in the Blood Transfusion Service by the Birmingham Regional Hospital Board:** Claim: That workers should receive agreed weekly rates of wages with option of retaining their previous conditions of service. Award: The Tribunal found in favour of the claim. (April 12, 1951.)

**No. 1648. Conditions of Employment of Apprentices in the Electrical Contracting Industry in Scotland.** Claim: That each apprenticeship shall provide for compulsory attendance of the apprentice at a technical course up to the age of 18 years. Award: The Tribunal found the claim as stated not established, but recommended that both parties should draw the attention of the authorities to the desirability of increasing facilities available for the day training of apprentices. (April 12, 1951.)

**No. 1649. Rates of Wages of Certain Workers Employed by the Essex, Kent and Surrey County Councils.** Claim: That drivers of gulley emptiers be paid an extra plus rate of 1d. per hour and that mates on mechanical gully emptiers be paid 7s. per week over the minimum rate. Award: The Tribunal found in favour of the claim. (April 12, 1951.)

**No. 1650. Annual Holidays in the Fireclay Refractories Industry in England and Wales.** Claim: For additional week's paid annual holiday. Award: The Tribunal found in favour of the claim which shall have effect from the beginning of the 1951 annual holiday period. (April 16, 1951.)

**No. 1651. Basic Rates of Wages and Piecework Prices of Male and Female Workers Employed in the Vehicle Building Industry in the United Kingdom.** Claim: For specified increases in existing basic rates of all classes of workers and for an adjustment of the basis of calculation of piecework prices and bonus or basis times. Award: The parties adjourned and reached agreement on the following points which the Tribunal endorsed: (1) Rates of wages of adults to be increased by 3d. per hour; (2) rates of apprentices and boys to be increased proportionately; (3) rates of women and girls to be increased *pro rata* in accordance with normal practice; (4) the unions re-affirmed their acceptance of clauses dealing with "systems of payment by results" as set out in the joint agreements of July 30, 1949 and April, 1949; (5) the employers agreed to make retrospective payment for four full weeks and the unions undertook not to regard this as a precedent. (April 17, 1951.)

**No, 1652. Rates of Wages of Laboratory Staff Employed by a Company at Stockport.** Claim: For specified rates for male and female staff. Award: The Tribunal awarded minimum salary scales as follows:

| Age | Males | Females |
|---|---|---|
| 16 ... ... ... ... | 2 8 0 | 2 8 0 |
| 17 ... ... ... ... | 2 16 0 | 2 16 0 |
| 18 ... ... ... ... | 3 3 0 | 3 3 0 |
| 19 ... ... ... ... | 3 13 0 | 3 13 0 |
| 20 ... ... ... ... | 4 3 0 | 4 3 0 |
| 21 ... ... ... ... | 4 18 0 | 4 12 0 |
| 22 ... ... ... ... | 5 6 0 | 4 18 0 |
| 23 ... ... ... ... | 5 15 0 | 5 2 0 |
| 24 ... ... ... ... | 6 3 0 | 5 6 0 |
| 25 ... ... ... ... | 6 9 0 | 5 12 0 |
| 26 ... ... ... ... | 6 17 0 | 5 17 0 |

(April 17, 1951.)

**No. 1653. Rates of Wages of Workers Employed in the Cooperage Industry.** Claim: For increase of 3d. per hour in day rate. Award: Claim not established. (April 19, 1951.)

# THE MONTH'S DATES

**British Association for Commercial and Industrial Education**

July
23-30 Annual Conference. Leamington Spa.

**Burton Manor**

8-20 "An Introduction to the Study of Human Relations in Industry." (For graduates.)

**Bristol University and W.E.A.**

21-Aug. 11 "Trade Union History and Problems."

**Industrial Welfare Society**

August
2-4 "Industrial and Factory Law." A practical course for managers and executives. London.
5-9 "People at Work." Second Conference. Keble College, Oxford. (Organised in conjunction with the N.I.I.P. and Ro.S.P.A.)
10-14 "People at Work." Third Conference. Keble College, Oxford.

**Institute of Industrial Administration**

21-28 "Management Practice." Wadham College, Oxford.

**Pendley Manor**

2-7 Course for Foremen and Supervisors.

**Wedgwood Memorial College**

22-28 Trade Union Problems.

*(With acknowledgments to the* Management Calendar *of the British Institute of Management.)*

## HOW TO PLAN AND EQUIP YOUR C.D. ORGANISATION

(*Continued from p. 24*)

cover specialised training for sections. But to deal with basic training certain minimum equipment is necessary. The numbers to be trained are related to the number of persons at work at one time, and a scale of establishments is given on page 19 of the Civil Defence Industrial Bulletin No. 1 (see also page 31 of this issue). The equipment quoted is the amount necessary for a class of fifteen.

*A General Instructors' Unit*—Set of tools for assembly of respirators:

| *Item* | *Quantity* | *Price* |
|---|---|---|
| *Key, guard valve | 1 | 2s. 6d. each |
| *Key, eyepiece removal— | | |
| inner | 1 | 2s. 6d. each |
| outer | 1 | 3s. 6d. each |
| *Tool, extracting | 1 | 6d. each |
| *Tool, positioning (inlet valve No. 4) | 1 | 1s. 6d. each |
| Pliers (pair) | 1 | |
| Scissors (pair) | 1 | |
| Lever, wood | 1 | |
| Screwdriver | 1 | |

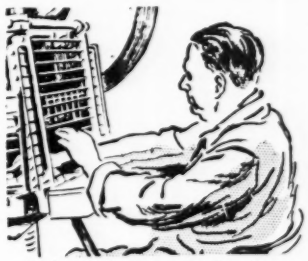
*Basic General Training Unit:*

| *Item* | *Quantity* | *Price* |
|---|---|---|
| *Capsules C.A.P. (tin of 120) | 1 | 9s. 6d. a tin |
| *Detector, pocket vapour | 1 | 27s. 6d. each |
| *Gloves, oilskin, anti-gas (pairs) | 2 | 10s. 9d. a pair |
| *Helmets, steel | 8 | 18s. 6d. each |
| *Mixture, G.T.M.3D (1 gallon can) | 1 | 22s. 6d. a can |
| *Ointment, anti-gas (tin) | 1 | 1s. 6d. a tin |
| *Papers, detector (ground training) (packets) | 1 | 1s. 0d. a pkt. |
| *Pumps, stirrup | 4 | 45s. 0d. each |
| *Respirators, G.S. | 29 | 22s. 9d. each |
| *Respirators, C.D. | 4 | 10s. 9d. each |
| *Respirators, Civilian | 4 | 3s. 6d. each |
| *Suits, light oilskin, anti-gas | 2 | 55s. 0d. a suit |
| Axes, light | 4 | |
| Baskets, fire | 4 | |
| Board, danger gas | 1 | |
| Bombs, practice, incendiary | 15 | |
| Buckets | 8 | |
| Fireworks, thunderflash | 15 | |
| Gumboots (pairs) | 20 | |
| Labels, casualty identity (tie on) | 20 | |
| Overalls | 20 | |
| Whistles | 8 | |

(All prices quoted are subject to variation)

Items marked * may be purchased from the Home Office or Scottish Home Department; all others may be obtained locally. Some of this equipment will already be available in the works or offices concerned. Both the Home Office and the Scottish Home Department appeal to firms to make the best possible use of equipment supplied, and to obtain as much as possible from local sources, as stocks are limited at present and they are anxious to supply every firm with a fair share of the material available.


**Action for the Blind**



*Blind machinists and other engineering operatives are placed by N.I.B.*

THE EXAMPLE shown above is typical of the many ways in which N.I.B. helps the blind to become useful, happy workers in industry or commerce. N.I.B. is grateful to the co-operating Personnel Managers, whose active interest has been a constant source of encouragement in this great service to the blind. Given the same valued support in the future, N.I.B. is confident that its activities on behalf of blind workers can be still further extended.

**N·I·B** NATIONAL INSTITUTE FOR THE BLIND
(Regd. under the National Assistance Act, 1948)
224 Great Portland Street, London, W.1

FACTORY ACT REQUIREMENTS

Supply your workers with "DELCO"
LIQUID TOILET SOAP

Used in Corporation Departments, Railway Transport and Public Utility Undertakings, Offices, Canteens, RAF & ROF Factories, etc.

HYGIENIC ANTISEPTIC ECONOMIC

Samples and Quotations on application
Tip up Dispensers Supplied
(Please Quote this Journal)

**W. M. DELF (LIVERPOOL) LTD.**
SOAP AND DISINFECTANT MANUFACTURERS
DELCO WORKS, LIVERPOOL, 9.
PHONE AINTREE 1752 (2 LINES) 'GRAMS "GLYCERINE" LIVERPOOL

# Much better...
# *much quicker...*

CUTS, ABRASIONS, BURNS, SCALDS and COMMON SKIN TROUBLES yield at once to treatment with ANTIPEOL Cutaneous Vaccine Ointment. Antipeol contains the *antivirus* of every skin infection common to this country. Septic development is stopped or prevented by sterile vaccine filtrates and healing is expedited by proved ingredients in this ointment. For BURNS and SCALDS, ANTIPEOL has special advantages. It is microbicide and non-adhesive. Therefore dressings do not require to be changed every day.

## antipeol
*cutaneous vaccine ointment*

*Produced by the makers of:*
*ENTEROFAGOS for intestinal complaints;*
*RHINO-ANTIPEOL for naso-pharynx infections;*
*OPHTHALMO-ANTIPEOL for ocular infections;*
*DETENSYL for reducing arterial tension.*

*Welfare and Industrial enquiries invited.*

MEDICO-BIOLOGICAL LABORATORIES LTD. (INDUSTRIAL DIVISION),
CARGREEN ROAD, SOUTH NORWOOD, LONDON, S.E.25


Printed for the Proprietors, The Shaw Publishing Co. Ltd., 180 Fleet Street, E.C.4 (CHA. 8844), by the Sidney Press Limited, London and Bedford. July, 1951. Advertisement and Editorial Office, 180 Fleet Street, London, E.C.4.